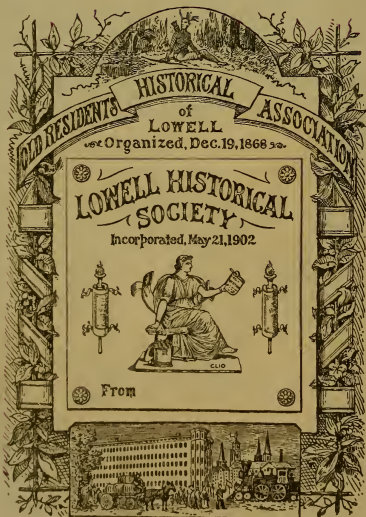
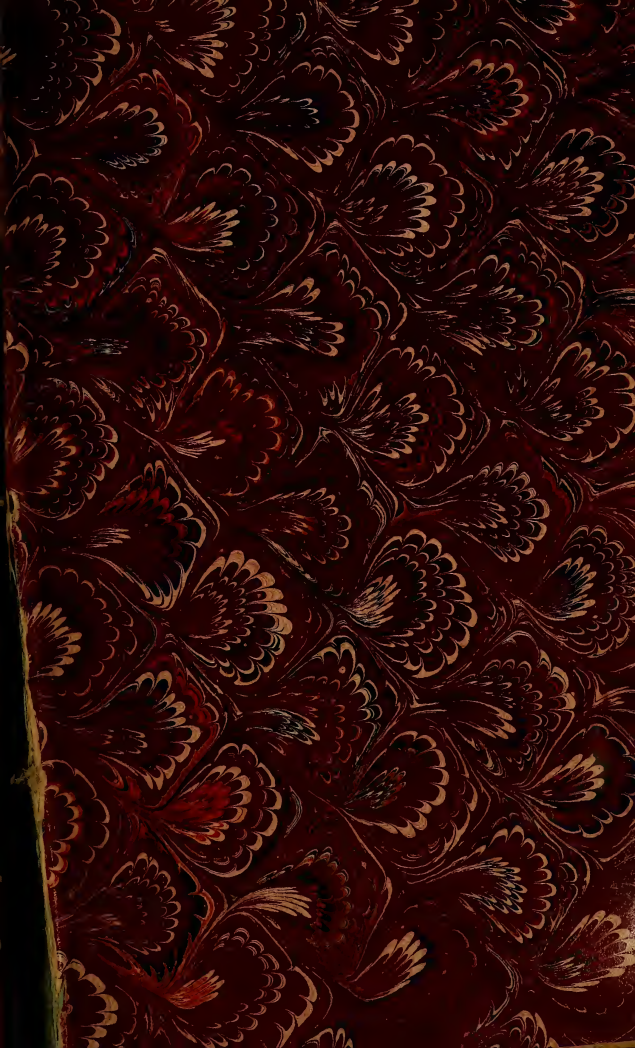


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LIBRARY OF THE



Case 7 (70)



CITY DOCUMENTS
OF THE
CITY OF LOWELL,
MASSACHUSETTS,
FOR THE
YEAR 1892-1893.



LOWELL, MASS.:
CITIZEN NEWSPAPER COMPANY, PRINTERS.
1893.

EXTRACT FROM THE ORDINANCES OF LOWELL.

CHAPTER VIII.—CITY DOCUMENTS.

SECTION 5. All City Documents (except the Rules and Regulations for the Government of the Police and Fire Department) shall be printed in pamphlet form of the size of the Annual Report of the School Committee.

SECTION 6. All City Documents shall be bound together in one volume, under the direction of the City Clerk, and three or more copies shall be placed in the City Library, and one copy in the library of the Middlesex Mechanics' Association, one copy shall be sent to each city of the Commonwealth, to the library of the Harvard College, the Public Library of Boston, the State Library, the Smithsonian Institute at Washington, and the Old Residents' Historical Association of Lowell.

CONTENTS.

1. Inaugural Address of His Honor, John J. Pickman, Mayor, to the City Council, Jan. 2, 1893.
2. Municipal Register, containing Rules and Orders of the City Council, and a list of the Government and Officers of the City of Lowell, for 1893.
3. Sixty-seventh Annual Report of the School Committee of Lowell, together with the Twenty ninth Annual Report of the Superintendent of Schools, 1892.
4. Auditor's Fifty-seventh Annual Report of the Receipts and Expenditures of the City of Lowell, together with the Treasurer's Account, and the Account of the Commissioners of Sinking Fund, for the financial year ending Dec. 31, 1892.
5. Twentieth Annual Report of the Lowell Water Board, and Reports of the Superintendent of Water Works and the City Engineer, to the Water Board, for 1892.
6. Report of the Overseers of the Poor, with the accompanying papers, 1892.
7. Report of the City Dispensary, 1892.
8. Report of the Births, Marriages and Deaths, 1892.
9. Report of the Board of Health, 1892.
10. Report of the Inspector of Milk and Vinegar, 1892.
11. Report of the Superintendent of Streets, 1892.
12. Report of the Chief Engineer of the Fire Department, 1892.

13. Report of the Superintendent of Street Lights, 1892.
14. Report of the Superintendent of Public Buildings, 1892.
15. Report of the Police Department, 1892.
16. Report of the Trustees of the City Library, 1892.
17. Report of the City Solicitor, 1892.
18. Report of the Superintendent of City Scales, 1892.
19. Report of the Sealer of Weights and Measures, 1892.
20. Salaries of the Officers of the City of Lowell for 1893.

THE INAUGURAL ADDRESS

—OF—

HON. JOHN J. PICKMAN,

MAYOR OF THE CITY OF LOWELL,

—TO THE—

TWO BRANCHES OF THE CITY GOVERNMENT,

JANUARY 2, 1893.



LOWELL, MASS :

CITIZEN NEWSPAPER CO., PRINTERS, HILDRETH BUILDING.

1893.

CITY OF LOWELL.

IN COMMON COUNCIL, JANUARY 2, 1893.

Order requesting a copy of the Mayor's Address.

ORDERED, if the Board of Aldermen concur, That His Honor, the Mayor, be requested to furnish a copy of his Inaugural Address for publication.

IN COMMON COUNCIL, JANUARY 2, 1893.

Read and adopted; sent up for concurrence.

FRANK J. SIMONDS, *Clerk*.

IN BOARD OF ALDERMEN, JANUARY 2, 1893.

Read and adopted in concurrence.

MICHAEL J. DOWD, *City Clerk*.

ADDRESS.

GENTLEMEN OF THE CITY COUNCIL:—

We are assembled here to-day as the servants of the people, elected by the people, to administer the affairs of the city with intelligence, economy and fidelity. This is an obligation resting upon us, which we assumed when we were elected, and, if possible, we have to-day strengthened that obligation by the solemnity of an oath as we have entered upon the discharge of our duty at the threshold of the municipal year. We are intrusted with the management of the affairs of a great corporation which requires the expenditure of large sums of money to accomplish certain practical results. The agencies necessary to be employed are the same as are made use of by our industrial corporations, namely, the use and employment of men and materials or supplies. The variance between this corporation and others is in products and results rather than in the use of means. We have

to deal with measures of a practical nature, which involve the protection, preservation and security of persons and property, the convenience, health, comfort and recreation of the public, the means of education and mental improvement, and the detection and punishment of offenders against the law.

The means whereby to accomplish these results or products is money paid into the city treasury by the public; and the expenditure of that money should be wisely and economically made with an eye single to the best interests of the whole city, regardless of party or section, and of corporate or individual clamor, or appeal, when yielding thereto would be a detriment to the whole city, or entail unduly extravagant outlay disproportionate to the public advantage. It is our solemn duty to exercise the same degree of care and watchfulness in the discharge of our public duties as in the management of our private affairs. Individual advantage and party supremacy should be subordinated to the public welfare. I am of the opinion that it is more honest and business-like to pay current expenses and expenditures for maintenance and repairs, as distinguished from outlays for permanent improvements, from the current income, rather than by a resort to permanent loans which but postpones the day of reckoning and adds to the incubus of interest. In homely

phrase, "Pay as you go." A low tax rate is not always the truest indication of the financial prosperity of a city; it may but

"Keep the word of promise to our ear,
And break it to our hope."

It would be presumptuous in me to assume that I am prepared to-day, at the threshold of my term of office, to offer for your consideration suggestions or recommendations based upon exact knowledge of my own derived from personal familiarity of the needs and condition of the various departments of the city. The interval of time between the municipal election and the inauguration of the officers elected is too brief to admit of more than a very general survey of municipal affairs based largely upon data and information furnished by the heads of the various departments and more fully contained in their annual reports.

I will first invite your attention to the financial condition of the city from a statement furnished to me by the auditor:

FINANCIAL STATEMENT.

Cash in the Treasury Jan. 1, 1892.....	\$ 288,718.38
Amount received into the Treasury during the year,	3,419,083.81
Making a total of.....	<u>\$3,707,802.19</u>
Amount paid from the Treasury during the year	
1892	3,395,363.77
Cash in the Treasury Dec. 31, 1892.....	<u>\$312,438.42</u>

CITY DEBT.

Amount of ordinary city debt Jan.

1, 1892..... \$2,269,200.00

Amount borrowed during year 1892, 543,000.00

Total \$2,812,200.00

Amount paid during year 1892..... 842,900.00

Total ordinary city debt Dec. 31,

1892 \$1,969,300.00

Amount of the debt of the city on
account of Water Works, Jan.

1, 1892..... \$1,185,000.00

Amount borrowed during year 1892, 100,000.00

Total \$1,285,000.00

Amount paid during year 1892..... 6,000.00

Total debt of the city on account of

Water Works Dec. 31, 1892.... \$1,279,000.00

Total debt of the city Dec. 31, 1892.. \$3,248,300.00

Ordinary city debt Dec. 31, 1892.... \$1,969,300.00

Amount of the several sinking funds
for the payment of the same Dec.

31, 1892..... 255,502.11

Net ordinary debt Dec. 31, 1892..... \$1,713,797.89

Debt of the city on account of Water

Works, Dec. 31, 1892..... \$1,279,000.00

Amount of the several sinking funds
for the payment of the same Dec.

31, 1892..... 128,281.72

Net debt of the city on account of

Water Works Dec. 31, 1892.... \$1,150,718.28

Total net debt of the city Dec. 31,

1892 \$2,864,516.17

Total net debt of the city Dec. 31, 1891	\$2,570,050.43
Increase in the net debt of the city during year 1892.....	<u>\$294,465.74</u>

During the past year, four sinking fund loans have matured and been paid, amounting to \$405,000, as follows:

Aiken Street bridge loan.....	\$195,000
Central bridge loan.....	120,000
New buildings at City Farm loan.....	60,000
Sewer loan of 1882.....	<u>30,000</u>
Total.....	\$405,000

The Sinking Fund Commissioners have also paid over to the City Treasurer for cancellation notes and bonds of the city amounting to \$265,500, making the unusual amount of \$670,500 in city securities, paid in one year from the sinking funds.

LOANS.

The following loans have been made during the year 1892:

For Hospital at Poor Farm.....	\$ 35,000.00
City Hall and Memorial Buildings.....	165,000.00
School Houses, Moody School.....	\$20,000.00
High School.....	35,000.00
Chelmsford Street..	60,000.00
Oakland School....	<u>10,000.00</u>
	\$125,000.00

ADDRESS OF THE MAYOR.

Garbage Cremator.....	\$8,000.00
Boulevard	25,000.00
Watering Streets.....	10,000.00
Sewers.....	50,000.00
Paving	25,000.00
Street Department.....	22,000.00
Pauper Department.....	20,000.00
Police Department.....	18,000.00
Fire Department.....	40,000.00
	<hr/>
	\$543,000.00

WATER LOAN.

New driven well plant.	\$100,000.00
	<hr/>
	\$643,000.00

CITY DEBT.

The following statement has been prepared which will be of interest, showing the relative increase or decrease of the city debt covering a period of fifteen years:

Dec. 31.	Net City Debt.	Increase.	Decrease.	Per Cent. of Debt to Valuation.
1878	\$2,119,203.18			5.29
1879	2,054,274.08		\$ 64,929.10	5.18
1880	2,016,616.67		37,657.41	4.90
1881	1,992,868.65		23,748.02	4.65
1882	2,352,273.57	\$359,404.92		5.07
1883	2,696,926.65	344,653.08		5.40
1884	2,660,054.09		36,872.56	5.20
1885	2,451,723.70		208,330.39	4.77
1886	2,275,131.01		176,592.69	4.28
1887	2,125,170.68		149,960.33	3.74
1888	2,126,357.82	1,187.14		3.69
1889	2,136,117.49	9,759.67		3.57
1890	2,160,758.59	24,641.10		3.46
1891	2,570,050.43	409,291.84		4.01
1892	2,864,516.17	294,465.74		4.43

BOARD OF HEALTH.

I regard the health of the city and the means and agencies employed to preserve it and to guard

against the inroads of disease and pestilence as of supreme importance. I would not utter a word of warning with a purpose to excite unnecessary alarm, but I am constrained to say, from the published opinions of experts in sanitary science who are competent and conservative authority, that Lowell is peculiarly liable to the attack and spread of cholera, should that dreaded disease reach these shores. The water supply from the Merrimack river is of impaired quality, and may easily become the means of the transmission of disease germs; and some portions of the city, notably Little Canada, at certain seasons of the year are disease-breeding localities by reason of insufficient or defective sewerage, the poor condition of the streets, overcrowding in tenement houses, and, generally, the lack of proper sanitary conditions. It is true that the nature of the ownership or holdings of the real estate in Little Canada renders it difficult for the city authorities to properly deal with this locality, but stringent regulations should be made and enforced with respect to the disposition of garbage and offal, and the drainage and the use of the streets. A responsibility rests upon us and upon the Board of Health, and I bring this matter to your attention and to the public notice with the earnest hope that prompt, intelligent and systematic action may be taken by the authorities having this special matter in charge to secure the

best sanitary conditions possible in our city. The Board of Health has rendered excellent service during the past year in the direction of sanitary reform by the erection of a crematory for the disposition by combustion of swill, garbage and other waste products which have heretofore in one way and another been prejudicial to the health of the community. The expenditures in this department have been \$43,371.86.

MILK INSPECTOR.

I am convinced that the milk inspector has been active and efficient in the discharge of his duties, and that the city has been benefited by his intelligent efforts to maintain a proper standard in the quality of milk, meat and provisions. About 1,250 samples of milk have been chemically analyzed by him during the past year.

SCHOOLS AND SCHOOL HOUSES.

The report of the school committee abounds in facts and data of great interest relative to the system and methods of instruction afforded by the public schools of our city. I am satisfied that

the schools are under excellent supervision, and that energetic and progressive efforts are being made by the superintendent of schools to maintain a high standard of excellence in the various departments of public instruction. The expenditure for our public schools is cheerfully made, that the pride and glory of our Commonwealth, the public school system, may be broadened and strengthened and made the power for good in the dissemination of intelligence and for the education and training of the young which the founders of the common school system designed for it. The safety and prosperity of the Republic largely depend upon the intelligence of the people, and the school room is the source of supplies for the foundation of the structure of good citizenship. The evening schools maintain their high prestige, and no pains should be spared to afford the best accommodations and instructors in this important branch of school work. The evening high school, and the evening drawing and mechanical schools are affording excellent opportunities for instruction in the higher studies and in special branches, of great value in this industrial community which calls for special training of hand and brain. The high school building has been roofed in, and it is expected will be ready for occupancy next September. It will be divided into twenty rooms, including laboratories. The Moody school building will be completed early

in the next Spring, and will abundantly supply all of the present and prospective needs in the vicinity of its location. A grammar school building is to be erected on Chelmsford street, near Hale street, which will afford relief for the crowded condition of the Highland school and the Butler school. A primary school is building at the Oaklands.

The total expenditures for schools for the past year have been \$201,451.57, and for school houses \$181,631.41.

CITY LIBRARY.

The City Library is a valuable auxiliary to the schools as a means for the acquirement of useful knowledge and mental training. It has labored for years under the disadvantage of cramped accommodations at its present location, but, notwithstanding this disadvantage the library and its adjunct or supplement, the reading room, have been doing splendid work, and are efficient agencies for good in this community. The library will shortly be removed to the Memorial Building, and the improved facilities for work and for development thereby afforded will greatly add to its usefulness. The accessions of books to the library

since it was first made public in October, 1883, are as follows:

1884,.....	1,659.
1885,.....	1,341.
1886,.....	3,036.
1887,.....	3,164.
1888,.....	1,647.
1889,.....	2,818.
1890,.....	2,050.
1891,.....	2,974.
1892,.....	5,500.

The circulation of books for the year 1892 was 114,915; daily average circulation, 375. Since the fire in 1891 7,760 volumes have been added to the library.

The reading room on John Street has increased in usefulness from year to year. It is liberally supplied with all the leading newspapers and periodicals. The expenditures upon account of the the Library during the year were \$19,908.48.

CITY HALL AND MEMORIAL BUILDING.

The new City Hall and Memorial Building are now rapidly approaching completion, and will undoubtedly be finished and ready for occupation the present year. They are worthy temples of the city and will be of great service in the near future, and for generations to come, in affording splendid accommodations for the public and officials

in the transaction of public business, and for the proper recognition and celebration of public occasions and events. It is probable that the City Hall building will be finished during the month of September next; the Memorial Hall building will be in readiness to receive the library in February or March next, and will be completely finished early in the summer.

The Memorial Building has cost to date \$139,234.57. The City Hall has cost to date \$266,898.62. Total \$406,133.19. Expended on both buildings during the past year, \$146,346.32.

STREETS.*

A large amount of work has been done in the department of streets during the year. Fourteen streets have been macadamized and three paved. In streets where there is much heavy trucking and business travel the use of paving is strongly recommended; it is more economical in the end. Chelmsford street has been called to my attention as requiring speedy action to improve its condition, and it may be deemed best to pave this street or a part of it. It is very important that our streets be kept in good condition, and a large expenditure of time and money is required to keep them as a whole in uniformly good condition. Not one dollar should go to waste, nor

one locality favored to the detriment of another. An improved average condition of all the streets should be constantly regarded as the rule to be followed. The expenditures during the year were \$122,547.15.

WATERING STREETS.

The legislature, in the year 1891, passed an act entitled: "An Act Relating to the Watering of Streets in Cities."

By virtue of its provisions, a new department or feature of city work was established the past year. The experiment is said to have been satisfactory in its results. The city owns and makes use of twelve watering carts, and waters about ten miles of streets.

The sum of \$16,793.89 was expended during the past year.

BRIDGES.

A substantial bridge has been constructed over River Meadow brook, at Newhall street. The steel girders and the iron fence were furnished and erected by the Boston Bridge Works; the abutments and the wood work were built by the city.

As our wooden bridges approach the limit of safety they should be replaced by more permanent structures of stone, brick or iron.

A commission was appointed by the City Council of 1892 to inquire into the condition of the East Merrimack street bridge over Concord river. The report of this commission recommending the rebuilding of the bridge has been referred to the favorable consideration of the City Council of 1893.

Petitions for the rebuilding of the Lawrence street bridge over Concord river have also been referred with the recommendation that the bridge be rebuilt.

SEWERS AND DRAINS.

Good sewerage is one of the chief needs of a large and growing city; it is essential to the public health. During the year a large number of pipe sewers have been built, and brick sewers have been built, or are in process of construction, in Moore Street, Middlesex Street, Maple Street, and the Marginal sewer extension. The demands of the public for additional sewers have been generally complied with, and work is progressing rapidly in this direction in nearly all sections of the city. Great difficulty has been experienced in the construction of the Maple Street sewer by reason of boiling springs and shifting sands, which have added very much to the expense and time required to do the work; but it is now rapidly approaching completion, and will be a great relief

to the section of the city in which it is located. Nine thousand five hundred and forty-three lineal feet of pipe sewers have been laid the past year, and 4,454 lineal feet of brick sewers. Thirty catch basins have also been built.

The old stone drain running from the B. & L. R. R. near the new freight station, through the South Common and through private land and across Charles Street and Central Street to Tyler Street, thence through passageway to Church Street, is in a very bad condition. It causes a great deal of trouble to the city and to individuals in whose land it is located by the repeated stoppages and the flooding of cellars, making all the land through which it runs very unhealthful. This old drain should be discontinued from South Street to Church Street and filled up, and all the sewer connections removed from it.

Great care should be taken to keep the sewers clean as an essential sanitary requirement.

The amount expended on sewers and drains for the year 1892 was \$89,021.15.

FIRE DEPARTMENT.

The Fire Department of the city ranks among the first in point of efficiency and equipment in New England. The members are trained and courageous men, and perform their oftentimes dan-

gerous duties with an energy worthy of the highest commendation. The roll of the department consists of a chief engineer, four assistant engineers, seventy-four permanent men and ninety-four call men. The department has sixty horses under its control and thirteen fire houses in use. The apparatus and appliances consist of six steamers, eleven hose carriages, four trucks, two chemical engines, one protective wagon, and 18,000 feet of hose.

The engine house in Pawtucketville was completed in July last, and is now occupied by a hose wagon and steamer. An engine house in the mill district, so called, on Lawrence street, was built during the last year, and is occupied by a hose carriage and truck.

The expense of the department during the year was \$134,403.12.

WATER WORKS DEPARTMENT.

The water works and all that is comprehended under this head is a subject that this occasion will hardly afford the opportunity to enter upon at such length as its importance deserves. The work of the department during the past year has been of unusual magnitude. A 30-inch force-main pipe has been laid from the pumping plant on West Sixth street to the Beacon street reser-

voir, paralleling the 24-inch main that has heretofore delivered all the water entering the reservoir. There are few cities with the equipment and skilled men necessary to handle work of this heavy nature, and it is certainly to the credit of the Lowell Water Works department that the work was completed in the time and manner it was done. Four miles of street mains have been added to the system, which now embraces very nearly one hundred miles of street mains. While our citizens may congratulate themselves upon the facilities possessed by Lowell for furnishing a plentiful supply of water, it may be said that the suspicion that the water as supplied is not all that it should be in quality is not entirely without foundation. There is a reasonable expectation that within a short time a supply of ground water amounting to fully 5,000,000 gallons daily will be furnished by means of driven tube wells on land now owned by the city near the City farm. It is claimed that by this method, and upon this and adjoining territory, fully 10,000,000 gallons of water daily may be secured. During the experimental period of this work the water pumped will be forced into the water mains direct, pumping against the reservoir pressure. Should success be demonstrated it is probable that permanent works will be established at that end of the city, and the water either delivered into stand pipes or

sent by conduit across the city to the present pumping plant, a question of engineering and of the future.

The water rates have been reduced the past year, all consumers receiving the benefit of 10 per cent. discount, amounting to \$20,000. I am informed that the financial condition of the Water Works department will allow of the continuance of this reduction during 1893. The matter of lessening the rate charged for metered water to large consumers is now under consideration by the water board. It would seem to be equitable that it should be done if the condition of the Water Works finances will permit it. It is probable that the Water Board will communicate with you upon the subject.

LIGHTING DEPARTMENT.

There are 274 electric lights, 321 gas lights, and 461 gasoline lights. The total expense of this department for the past year was \$61,725.06.

POLICE.

The city is well supplied with a large and efficient police force, which numbers 96 men, made up of one chief, two deputies, three sergeants,

six inspectors, two keepers, three court officers, sixty-nine patrolmen and ten reserve men. The introduction and use by the department of the Police Telegraph System insures prompt action in emergencies. The good order and well being of the city depend largely upon the activity, intelligence and faithfulness of the members of this department; it should receive your encouragement and support, and in their turn the officers should be vigilant in the detection and prosecution of all offenders against the law. The degree of protection afforded to our persons, property and the good name of the city is measurably determined by the efficiency and vigilance of the police force. Whatever tends to secure freedom from political dictation and control is wholesome action, and marked progress has been made in this direction the past year. The annual report of the chief contains recommendations of value which I ask you to consider. The total expenditures for this department for 1892 were \$101,715.43.

LICENSES.

By a popular vote the city has authorized the granting of licenses for the sale of intoxicating liquors during the current year. By virtue thereof the licensing board may grant licenses in the exercise of its discretion. In the granting and issue

of licenses I urge upon the members of the board the most careful and conscientious consideration of and compliance with the spirit and letter of the statutes relating thereto. The intent of the framers of the laws in this Commonwealth which relate to the sale of intoxicating liquors was to regulate and limit a traffic deemed detrimental to the welfare of the state. The manifold restrictions and conditions affecting the granting and issuing of licenses warrant this significance. It is suggested that a fair construction of the statutes in relation to the granting of licenses would seem to warrant the view, as to several classes of licenses at least, that licenses to sell should be granted to persons only in other respects worthy, and engaged in some business other than the sale of intoxicating liquors exclusively. In other words, that the sale of liquor under the license system was designed to be an incident to and subsidiary to certain kinds of business which from their nature would seem to warrant the sale of liquor in connection therewith; as, for instance, that of an innholder, common victualler, grocer or apothecary. I urge upon the board to ascertain the true intent and meaning of the law in this respect and to deal with the subject in a conservative manner. Great caution should be exercised in the granting of licenses of the sixth class (druggists) as to the number granted, and with respect to the character and

standing of the recipient. I am of the view acted upon by my predecessor in office, that the members of the committee on license and the committee on police be the same persons.

PAWTUCKET BOULEVARD.

There has been expended during the year 1892 the sum of \$24,403.66 in adding to the beauty and convenience of this elegant driveway. The river wall has been extended, and facilities supplied for the distribution of water for watering the way and for other purposes. During the year some land adjoining the roadway has been cut up into building lots and sales made by public auction. It is evident that many new buildings will be erected in this vicinity in the near future, and the disposition of house drainage and other waste products is a subject which will require careful consideration. The nearness of the land to the source of water supply renders it necessary that the utmost precautions be taken to prevent contamination from this cause, and ample provisions should be made therefor when the conditions exist that warrant action. A large amount of money is annually expended for the maintenance and improvement of the boulevard, and the time has come when a plan or scheme of public park improvement and maintenance should be adopted by the

City Council with a view to securing system and an economical expenditure of public money. The amount expended on the Boulevard to the present time is \$78,000.

COMMONS AND PARKS.

A large outlay of money is annually made for the maintenance and improvement of the pleasure grounds of the city. It is a wise expenditure if properly made. Our city is not a workshop merely, a place to do business in, but it is a home to live in and to enjoy the rest which comes after toil. What appreciably adds to the beauty and attractiveness of a city, makes it a pleasant place of residence, and adds to its valuation; but while we are fully alive to the advantage from a practical, no less than a sentimental point of view of maintaining pleasure grounds for the public, we should be utterly opposed to a lavish expenditure of money, time and labor for such purposes that is not productive of substantial results. Spend no more money than is actually needed, and get a fair equivalent for what is spent. The expenditure for commons and parks in 1892 was \$12,109.73.

CEMETERIES.

In the year 1891 the burial grounds of the city were placed under the control and manage-

ment of three trustees, consisting of the mayor, and, by appointment, Messrs. Frank B. Dow and Fred Woodies. The wisdom of this action has been shown by the results. For years the title and ownership of most of the lots in the Edson cemetery have been involved in doubt. Deeds of lots or other evidences of title had never passed; hence arose conflicting claims. Since the appointment of this board order has been brought out of chaos; the land has been re-surveyed, divided into lots, deeds prepared, and a record of the deeds and a plan of the lots filed and recorded with the city clerk.

There is a suit pending against the city growing out of the seizure of land by the city under a legislative enactment.

The amount expended during the past year for the care of cemeteries was \$7,815.82.

STATE AID.

The whole amount disbursed by this department during the past year was \$21,401.05.

PAUPERS.

Improved accommodations for the poor and insane have been provided at the City Farm. A new hospital for the use of male paupers has been erected during the year; also an addition to

the women's asylum. A new boiler house and store house are approaching completion. There are 436 inmates at the almshouse, divided into classes as follows: Paupers, 194; chronic insane, 84; workhouse inmates, 111; inmates of Reform School, 47. Expenditure for 1892 amounts to \$86,982.81. The amount expended on new buildings is \$24,-459.64.

CHARTER AND ORDINANCES.

In view of the recent adverse vote of the people upon the acceptance of the legislative act embodying changes in the charter of the city, it may be a little premature to urge upon your consideration the propriety of action with a view to a revision of the charter and ordinances the present year. I am convinced, however, that many changes could be made therein which would greatly expedite and improve the transaction of public business. The Mayor should be invested with more power and responsibility than he now has. There is room for improvement in the method of choosing the overseers of the poor; there is need of legislation to secure method, unity and comprehensiveness in the design and execution of the public work. A lack of responsibility and a lack of system are defects in the present administration of local affairs. These are matters of

moment to all our citizens without regard to party, and I trust that friendly conferences and public discussion may awaken interest and lead to municipal reform. -

VOTING PRECINCTS.

The city is divided into six wards, and each ward into three precincts, making eighteen precincts in all.

In several of the precincts there are more than eight hundred voters, as will appear from an inspection of the table I have caused to be prepared.

With the system of voting now in use, taken in connection with the meagre accommodations afforded in many of the polling places for the convenience of the voters and the ward officers, I believe the existing conditions are not favorable to ensure convenience in voting, or celerity or accuracy in counting the votes cast. The remedy may be found in an increase of ward precincts, or a division of the larger precincts. The way to the ballot box should be made convenient for the voters, and no pains should be spared to obtain an honest vote and an accurate count.

I ask you to consider the subject, and to determine what action, if any, should be taken with reference to it.

NO. OF VOTERS IN EACH PRECINCT.

Ward 1.

Precinct 1.....	552
2.....	574
3.....	587—
	1713

Ward 2.

Precinct 1.....	362
2.....	770
3.....	1124—
	2256

Ward 3.

Precinct 1.....	766
2.....	1048
3.....	965—
	2779

Ward 4.

Precinct 1.....	639
2.....	849
3.....	1239—
	2727

Ward 5.

Precinct 1.....	695
2.....	721
3.....	818—
	2234

Ward 6.

Precinct 1.....	786
2.....	621
3.....	840—
	2247

Total number of voters, 13,956.

CONCLUSION.

I have now in a general way called your attention to the needs and conditions of the various departments of the city, and the magnitude and variety of the interests entrusted to our care is impressed upon us by the statement. Many of us have not the familiarity with the affairs of the city that comes from frequent or recent service in its behalf and that affords the happy combination to the possessor of zeal with knowledge, therefore we are bound the more to exercise the greater diligence in the discharge of our duties, that the interests of the city may not suffer. It is useless to indulge in the expression of good resolutions or in protestations of fidelity. We are to be

judged by our acts at the close of our term of service, not by our words at the beginning of it. The path of duty is before us; let us walk in it that however others may cavil, criticize or complain, we may, at the close of the year, deliver up our trusts with the consciousness that we have striven to do what was right.



MUNICIPAL REGISTER:
CONTAINING
RULES AND ORDERS
OF THE
CITY COUNCIL,
AND A LIST OF
THE GOVERNMENT AND OFFICERS OF THE CITY OF LOWELL.
1893.



LOWELL, MASS.:
SUN BOOK AND JOB PRINT,
1893.

JOINT RULES AND ORDERS OF THE CITY COUNCIL.

1. In the month of January joint standing committees shall be appointed as follows :

- A COMMITTEE ON ACCOUNTS,
- A COMMITTEE ON CLAIMS,
- A COMMITTEE ON EDUCATION,
- A COMMITTEE ON THE FIRE DEPARTMENT,
- A COMMITTEE ON LANDS AND BUILDINGS,
- A COMMITTEE ON MILITARY AFFAIRS,
- A COMMITTEE ON ORDINANCE AND LEGISLATION,
- A COMMITTEE ON PRINTING,
- A COMMITTEE ON STREETS,
- A COMMITTEE ON COMMONS.

Each committee shall consist of two Aldermen and three members of the Common Council, except the Committee on Streets, which shall consist of two Aldermen and five members of the Common Council.

2. Each board shall, in such manner as it may determine, select its own members for any joint committee.

3. In all joint standing committees, except that on Finance, the member first named in the Board of Aldermen shall be chairman; on the Committee on Finance, the member first named in the Common Council shall be chairman; and in all joint special committees, the member first named in the board where the business originates shall be chairman, and shall call the committee together.

4. Reports of committees shall be made to the board first meeting after such reports are prepared and signed.

5. No committee shall act by separate consultation, and no report shall be received unless agreed to in committee actually assembled.

6. It shall be the duty of every joint committee (the Committee on Streets excepted), to whom any subject may be specially referred, to report thereon within five weeks, or ask for further time.

7. The by-laws of the city shall be termed ordinances; the enacting clause of which shall be—"Be it ordained by the City Council of the City of Lowell, as follows:

8. An ordinance may originate in either board, and shall be considered in three several stages. It shall first be read for information, and the question shall then be on ordering it to a second reading; but if it has not previously been in the hands of some joint committee, it shall first be so referred. When reported back, the recommendations of the committee shall first be acted on. If it shall then be ordered to a second reading, it shall next be examined by a standing committee of that board, who shall see that it is drawn in proper form. When returned by such committee, the question shall be on ordering it to be enrolled. If so ordered, it shall then be sent to the other board, where the same order of proceeding shall be observed. When it has been ordered by both branches to be enrolled, it shall be enrolled by the Clerk of the Common Council, and shall be by him submitted to the proper committee of that board, to ascertain if it has been correctly enrolled. If so reported, the question shall be on passing it to be ordained. If it shall so pass, it shall be signed by the President of the Common Council, and be sent to the Board of Aldermen, where it shall take a like course. If passed to be ordained in that board, it shall be signed by the Chairman of the Board of Aldermen, and be sent to the Mayor for his approval.

9. Every joint resolution shall be read in the board in which it is introduced, and the question shall be upon ordering it to a second reading. If so ordered, the question shall then be upon its passage. If passed, it shall be sent to the other board, where the order of proceeding shall be the same. When passed by both boards, the resolution shall be presented to the Mayor for his approval, and when the same shall be in force, shall be enrolled by the Clerk of the Common Council, and when found correctly enrolled as provided in the case of an ordinance it shall be signed by the President of the Common Council and the Chairman of the Board of Aldermen, and be presented to the Mayor for his signature, if he approved the original.

10. Joint orders shall require but one reading, and when adopted, shall be sent to the Mayor for his approval, except when they relate to a question of a convention of the two branches, or the election of any officer.

11. An ordinance may be rejected in any stage, but may not pass through all its stages in the same day.

12. Every appropriation of money exceeding fifty dollars shall be by resolution.

13. Each board shall transmit to the other all papers on which any ordinance, joint resolution, or order, shall be founded; and all papers, on their passage between the two boards, shall be under the signature of their respective clerks, except ordinances and joint resolutions in their last stage, which shall be signed by the presiding officers. If papers come before either board which have been duly acted upon in the other board, the presiding officer shall so state without reading the endorsements of the clerk, unless the latter are called for.

14. All enrolled ordinances shall be written in a fair and legible hand, without interlineations or erasures, and no enrolled ordinance or resolution shall be amended.

15. When either board does not concur with the other in any ordinance or resolution sent from the other, notice of such non-concurrence shall be given by a written message.

16. In any case of non-concurrence, each board may appoint a Committee of Conference. Such committee shall consist, in each case, of three members who support the vote of their own board. These two committees may meet jointly or separately, and a majority of each shall decide its action.

17. No committee shall enter into any contract with any of its members, or purchase, or authorize the purchase of, any article therefrom.

18. No chairman of any committee shall audit or approve any bill or account against the city, for any supplies or services, which shall not have been ordered or authorized by the committee.

19. All reports and other papers submitted to the City Council shall be written in a fair hand, without endorsement, except in case of the introduction of an order or resolution. In such a case, the member introducing an order or resolution shall subscribe his name at the bottom of the back of the same. All other endorsements upon the back of papers shall be made by the clerk; and the clerks of the boards respectively shall, on seasonable notice, make copies of any papers to be reported by committees, at the request of the respective chairmen thereof.

20. No business shall be transacted by the City Council in convention, except such as shall have been previously agreed on, unless by unanimous consent.

21. After the annual appropriations shall have been passed, no subsequent expenditure shall be authorized for any object, unless provision for the same shall be made by a specific transfer from some of the appropriations contained in the annual resolution, or by expressly creating therefor a city debt; but no such debt shall be created unless the resolution authorizing the same

pass by the affirmative votes of two-thirds of the whole number of each branch of the City Council, said votes to be taken by yeas and nays, excepting in cases of appropriations for the providing of armories for the use of military companies, for the celebration of holidays, and for other purposes of a public nature, when a vote of two-thirds of the members of each branch of the City Council present and voting shall be sufficient; but the amount of such appropriations named in this clause shall not exceed one-fiftieth part of one per cent. of the valuation of the city for the same year.

22. In ballotings in joint convention, blanks shall not be counted.

23. When both boards are in session at the same time, neither shall adjourn without giving notice to the other of its intention.

24. Reports of city officers, after being presented, shall remain in the office of the City Clerk two weeks before being printed.

25. All papers, of whatever description, relating to business requiring concurrent action of both boards of the City Council must be presented to the City Clerk, or the Clerk of the Common Council, not later than noon on the day the meeting is to be held. Petitions, reports or other papers, presented after that hour will not be taken up for action thereon until the next meeting.

26. These rules may be suspended for a specific purpose, or amended, whenever twenty-two members of a joint convention of the two branches shall so direct, or whenever a joint order to that effect shall be passed by the votes of six members of the Board of Aldermen and sixteen members of the Common Council.

RULES AND ORDERS OF THE BOARD OF ALDERMEN.

1. At the appointed time the presiding officer shall take the chair, and, on the appearance of a quorum, proceed to business.

2. The order of business shall be as follows:—

First.—At all regular meetings the journal of the last regular meeting and all intervening meetings of the board, shall be approved without reading, unless the reading be called for by some member of the board.

Second.—Petitions and similar papers.

Third.—Appointments, elections, etc.

Fourth.—New business, which, unless otherwise ordered, will take its place at the foot of Orders of the Day.

Fifth.—Orders of the Day, consisting of unfinished business of the last previous meeting, papers from the Common Council and such matters as have been introduced as new business. By a vote of six members, any matters in the Orders of the Day, may at any time be taken up for immediate consideration.

3. The presiding officer shall decide all points of order, subject to appeal. He may read while sitting, but must rise to put a question. He shall allow debate on a question until the vote has been declared, but not on the verification of a vote; and on a demand of two members, shall take every vote by yeas and nays.

4. When a question is under debate, the presiding officer shall receive no motion but to adjourn, to take up a special

assignment, to lay on the table, to postpone to a day certain, to commit, to amend, or to postpone indefinitely. These several motions shall have precedence in the foregoing order, and debate upon any of them shall be confined to the actual motion, and shall not go into the merits of the main question, except on amendment.

5. When a vote has passed, except for adjournment or to lay on the table, any member voting with the majority may move a reconsideration, to be acted upon at the same meeting. Any member voting with the minority may move a reconsideration, to be acted upon at the next meeting which latter motion shall have priority, if made before the motion first mentioned shall have been decided. No motion shall be twice reconsidered.

6. No member shall be interrupted while speaking, but by a call to order, or for the correction of a mistake; nor shall there be any conversation among the members while a paper is being read or a question stated from the chair.

7. When any member is about to speak in debate, he shall rise in his place and respectfully address the presiding officer, shall confine himself to the question under debate, and avoid personality.

8. In the month of January the following committees shall be appointed:—

A COMMITTEE ON BILLS IN SECOND READING,

A COMMITTEE ON ELECTRIC WIRES,

A COMMITTEE ON ENROLLMENT,

A COMMITTEE ON LICENSES,

A COMMITTEE ON LIGHTING STREETS,

A COMMITTEE ON POLICE,

A COMMITTEE ON REPAIRS OF STREETS,

A COMMITTEE ON SEWERS,

A COMMITTEE ON WEIGHTS AND MEASURES,

A COMMITTEE ON STATE AID.

The Committees on Licenses, on Police, on Sewers and on Electric Wires shall consist of three members each; the other committees shall be composed of two each.

9. Every member present shall be held obliged to vote on all questions, and not to leave without permission, if his presence is necessary to make a quorum.

10. The clerk shall prepare for the use of the board, a copy of the Orders of the Day to which shall be added a list of matters laid on the table or postponed to a day certain.

11. When a reference is proposed to more than one committee the question shall first be upon a standing committee of the board, then a special committee, then a joint standing committee and last a joint special committee.

12. These rules may be amended or suspended whenever two-thirds of the members present may so vote; but a motion to amend shall not be made and finally acted upon at the same meeting.

13. All petitions for the appointment or removal of police officers and watchmen shall, before action thereon is taken by the board, be referred to the Committee on Police.

14. All nominations of persons to serve as police officers and watchmen shall, before action thereon by the board, be referred to the Committee on Police, who shall report upon such nominations at or before the next regular meeting after such reference.

15. All papers, of whatever description, which may require action by this board, shall be presented to the City Clerk not later than the hour of noon on the day of each regular meeting. Petitions, reports and other papers, presented after that hour on such day, will not be considered until the next meeting.

RULES AND ORDERS OF THE COMMON COUNCIL.

1. The President shall take the chair precisely at the hour appointed for the meeting, call the members to order, and within ten minutes (or sooner, if a quorum be present,) he shall cause the roll to be called, and the names of absentees recorded. The first business after the roll-call shall be the approval of the records of the previous meeting, which shall be approved without reading, unless their reading be called for by some member. In the absence of the President the oldest member present shall call the Council to order, and preside until a President *pro tempore* be chosen.

2. He shall preserve order and decorum; may speak to points of order in preference to other members, rising from his seat for that purpose, and shall decide questions of order subject to an appeal to the Council by any member.

3. He shall rise to address the Council, to state facts, but may put questions, or read, sitting.

4. He shall declare all votes; but if a vote be doubted, the President shall, without further debate, require the members voting in the affirmative and negative to rise and stand until they are counted, and he shall declare the result.

5. He may call any member to the chair, but such substitution shall not extend beyond an adjournment, and when out of the chair, the President may express his opinion on any subject under debate, and he shall not resume the chair while the same question is pending.

6. All questions shall be propounded in the order in which they are moved, unless the subsequent motion be previous in its nature.

7. After a motion is stated by the President, it shall be disposed of by a vote of the Council, unless the mover withdraw it before a decision or amendment.

8. A motion to adjourn shall always be in order; that and the motion to lay on the table shall be decided without debate.

9. The previous question shall be in this form: "Shall the main question be now put?" It shall only be admitted when demanded by a majority of members present, and, until it is decided, shall preclude all amendment and further debate of the main question.

10. The yeas and nays shall be taken on any question upon the request of one-third of the members present.

11. When two or more members happen to rise at the same time, the President shall name the member who shall speak first.

12. When any member is about to speak in debate, or deliver any matter to the Council, he shall rise in his place and respectfully address the presiding officer, confining himself to the question under debate, and avoid personality.

13. No member shall be mentioned in debate by his name, but may be described by the place he sits in, or such other designation as may be intelligible and respectful.

14. No member speaking shall be interrupted by another, but by a call to order or to correct a mistake. If any member, in speaking or otherwise, transgresses the Rules of the Council, the President shall, or any member may, call him to order; in which case the member so called to order shall immediately be seated, until the question of order is decided. If the decision be in favor of the member called to order he shall be at liberty to proceed; if otherwise, he shall not proceed without the leave of the council.

15. No member shall speak more than twice to the same question without obtaining leave of the Council.

16. Whilst the President or any member is speaking none shall stand up or pass unnecessarily before the person speaking.

17. Every motion shall be reduced to writing, if the President or any member require it.

18. When a question is under debate, no motion shall be received but to adjourn, to lay on the table, for the previous question, to postpone to a certain day, to commit, to amend, or to postpone indefinitely; which several motions shall have precedence in the order in which they are arranged; and no motion to postpone or commit shall be allowed twice in the same day, in the same stage of the ordinance or proposition.

19. When a vote has passed, except for adjournment or to lay on the table, any member voting with the majority may move a reconsideration, to be acted upon at the same meeting. Any member voting with the minority may move a reconsideration, to be acted upon at the next meeting; which latter motion shall have priority, if made before the motion first mentioned shall have been decided. No motion shall be twice reconsidered.

20. Every member who shall be in the Council when a question is put shall give his vote, unless the council, for special reasons, excuse him.

21. No motion or proposition, on a subject different from that under consideration, shall be admitted under color of an amendment.

22. All reports may be committed or recommitted at the pleasure of the council.

23. The division of a question may be called for when the sense will admit of it.

24. When the reading of a paper is called for and objected to, it shall be determined by a vote of the Council.

25. No standing order of the Council shall be suspended, unless three-fourths of the members present consent thereto; nor shall any rule or order be repealed or amended without one day's notice being given of the motion therefor, nor unless a majority of the whole council concur therein.

26. All committees, except such as the Council determine to select by ballot, shall be nominated by the President.

27. No member shall be obliged to serve on more than two committees at the same time, or be chairman of more than one.

28. All memorials and other papers addressed to the Council shall be presented by the President, or by a member in his place, who shall explain the subject thereof; and they shall be taken up in the order in which they were presented, unless the Council shall otherwise direct.

29. Standing committees shall be appointed on the following subjects:—

ON SECOND READING OF BILLS AND ORDINANCES,
ON ENROLLMENT,
ON ELECTIONS AND RETURNS.

30. No committee shall sit during the sittings of the Council without special leave, except the Committee on the Second Reading of Bills and Ordinances and the Committee on Enrollment.

31. The rules of proceeding in the Council shall be observed in the Committee of the Whole, so far as they are applicable except the rule limiting the time of speaking.

32. When a committee is nominated by the chair, the person first named shall be chairman. In election of committees by ballot, when a chairman is not specially chosen, the person having the highest number of votes shall act as chairman; and in case of an equality in votes between two or more members of a committee, the members thereof shall choose a chairman.

33. All ordinances and resolutions shall have two several readings before they shall be finally passed by this Council.

34. All ordinances before being read a second time, shall be referred to the Committee on the Second Reading of Bills and Ordinances, and after being reported upon by said committee, shall be again read, after which second reading the question shall be on passing the same to be enrolled.

35. No ordinance or resolution imposing penalties, or authorizing the expenditure of money, shall have more than one reading the same day.

36. The seats of the Common Council shall be numbered and determined by lot, and no member shall change his seat but by permission of the President.

37. All committees of the Council shall consist of three members, unless a different number be specially ordered ; and no report shall be received from any committee unless agreed to in committee actually assembled ; and all reports shall be in writing.

38. It shall be the duty of every committee of the Council, to whom any subject may be specially referred, to report thereon within five weeks, or ask for further time.

39. The clerk shall keep brief minutes of the votes and proceedings of the Council, entering thereon all accepted resolutions ; shall notice reports and memorials, and other papers submitted to the board, only by their titles, or a brief description of their purport.

40. All salary officers shall be chosen by written or printed ballots ; and in the election of any officers by ballot, blanks shall not be counted.

41. Members of the Council may attend meetings of any of its committees, but shall not vote thereat.

42. The Clerk of the Common Council shall keep the record of committees who may require that service ; and on the appointment of every standing committee, a book for records shall be

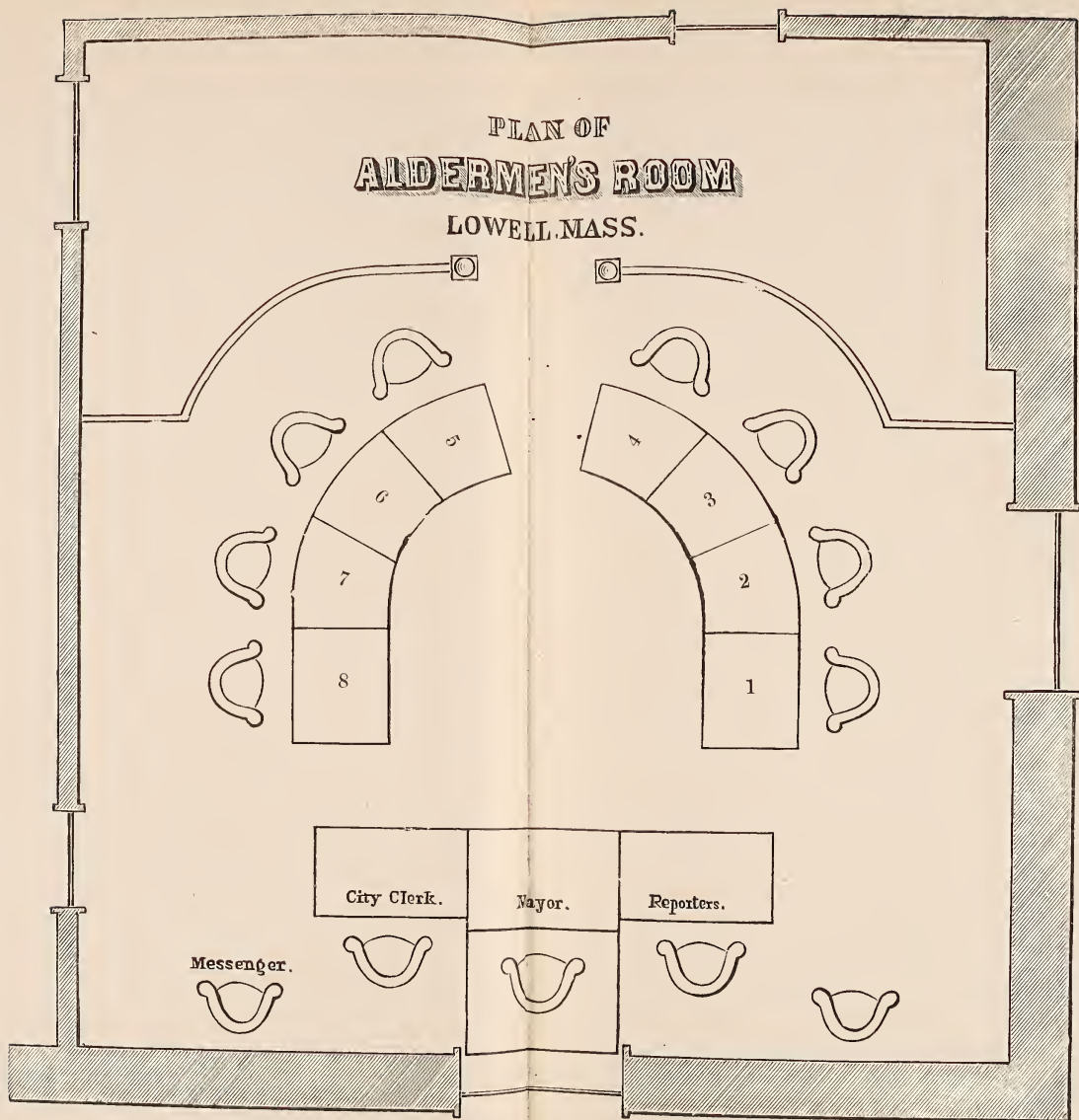
provided by its chairman, or by said clerk. The clerk shall have the custody of all minutes by him kept; and the records of the several committees shall be open to the inspection of the members of the City Council.

43. Any member offering a resolution shall write his name on the bottom of the back of such resolution.

44. With the exception of an order for a joint convention, any joint order originating in the Common Council shall be copied, and shall, previous to the hour for calling the meeting to order, be posted in some prominent place in the Council Chamber, where it may be open to the inspection of the members.

PLAN OF ALDERMEN'S ROOM

LOWELL, MASS.



JOHN J. PICKMAN,

Mayor.

- 1—WILLIAM E. WESTALL.
- 2—JOSEPH A. McDONALD.
- 3—GEORGE C. EVANS.
- 4—FREEMAN W. PUFFER.

- 5—STEPHEN B. PUFFER.
- 6—ELWYN W. LOVEJOY.
- 7—GEORGE R. CHOATE.
- 8—STEPHEN J. JOHNSON.

MICHAEL J. DOWD, *Clerk.*

CHARLES HOWARD, *Chief of Police.*

CITY GOVERNMENT FOR 1893.

MAYOR.

JOHN J. PICKMAN,
No. 11 Huntington Street.

BOARD OF ALDERMEN.

WILLIAM E. WESTALL.....*Chairman.*
GEORGE R. CHOATE.....255 Merrimack Street
GEORGE C. EVANS.....28 Sixth Street
STEPHEN J. JOHNSON.....76 Suffolk Street
ELWYN W. LOVEJOY.....441 Broadway
JOSEPH A. McDONALD.....72 Fletcher Street
FREEMAN W. PUFFER.....6 Thirteenth Street
STEPHEN B. PUFFER.....Middlesex, cor. School Street
WILLIAM E. WESTALL.....73 Mansur Street
MICHAEL J. DOWD.....Clerk.

COMMON COUNCIL.

WILLIAM T. BENSON.....*President.*

Ward One.

JOHN BRUNETTE.....9 Lagrange Street
PATRICK J. O'BRIEN.....245 Market Street
JAMES O'NEILL.....27 Jefferson Street
FRED. H. ROURKE.....40 Worthen Street

Ward Two.

CHARLES H. BOISVERT.....	38 Lilley Avenue
FRANK SCOTT.....	52 Boott Corporation
HUGH A. THOMPSON.....	21 Kirk Street
GEORGE H. TRYDER.....	32 West Third Street

Ward Three.

FRANK DUNLAP.....	11 Earle's Block, Gorham Street
JOHN J. GRADY.....	282 Lincoln Street
JOHN JOSEPH O'CONNER.....	25 Wamesit Street
WILLIAM H. STAFFORD.....	5 Meadowcroft Street

Ward Four.

GEORGE E. BARCLAY.....	3 Parker Street
WILLIAM L. HILLS.....	41 Branch Street
CHARLES T. KILLPARTRICK.....	425 Stevens Street
MOSES WYMAN.....	32 Hamilton Corporation

Ward Five.

CYRILLE CONSTANTINEAU.....	70 Rock Street
PATRICK J. CUSTY.....	17 Mt. Washington Street
CHARLES H. NOBLE.....	134 Broadway
JAMES O'SULLIVAN.....	7 Butterfield Street

Ward Six.

WILLIAM T. BENSON.....	152 Lawrence Street
JAMES J. DOLAN.....	18 Concord Street
THOMAS F. HOBAN.....	38 Andover Street
ANTHONY ROBINSON.....	80 Church Street

MEETINGS OF THE CITY COUNCIL.

The regular meetings of the City Council are held at the City Hall as follows :—

Board of Aldermen.

January.....3 and 17	July.....4 and 18
February.....7 and 21	September.....5 and 19
March.....7 and 21	October.....3 and 17
April.....4 and 18	November.....7 and 21
May.....2 and 16	December.....5 and 19
June.....6 and 20	

At 7:30 P. M.

Common Council.

January.....10 and 24	July.....11 and 25
February.....14 and 28	September.....12 and 26
March.....14 and 28	October.....10 and 24
April.....11 and 25	November.....14 and 28
May.....9 and 23	December.....12 and 26
June.....13 and 27	

At 8 P. M.

JOINT STANDING COMMITTEES OF THE CITY COUNCIL.

FINANCE.—The Mayor and Alderman S. B. Puffer ; Councilmen Dolan, Rourke and O'Sullivan.

APPROPRIATIONS.—The Mayor and Aldermen Lovejoy, Westall, S. B. Puffer and Evans ; Councilmen Hoban, O'Neill, Brunette, and Killpartrick.

ACCOUNTS.—Aldermen Evans and Choate ; Councilmen O'Connor, Grady and O'Brien.

CLAIMS.—Aldermen Evans and Johnson ; Councilmen Custy, O'Connor and Barclay.

COMMONS.—Aldermen Choate and S. B. Puffer ; Councilmen Hoban, Thompson and Robinson.

EDUCATION.—Aldermen Johnson and Westall ; Councilmen Stafford, Killpartrick and Dunlap.

FIRE DEPARTMENT.—Aldermen F. W. Puffer and Choate ; Councilmen O'Neill, Robinson and Dolan.

LANDS AND BUILDINGS.—Aldermen Westall and McDonald ; Councilmen Brunette, Stafford and Scott.

MILITARY AFFAIRS.—Aldermen McDonald and Choate ; Councilmen Rourke, Hills and Tryder.

ORDINANCES AND LEGISLATION.—Aldermen Choate and F. W. Puffer ; Councilmen Dolan, O'Neill and Grady.

PRINTING.—Aldermen Lovejoy and Westall ; Councilmen Brunette, Rourke and Grady.

STREETS.—Aldermen Lovejoy and Evans ; Councilmen Dolan O'Brien, Hoban, Wyman and Constantineau.

STANDING COMMITTEES OF THE BOARD OF ALDERMEN.

BILLS IN SECOND READING.—Aldermen Choate and McDonald.

ELECTRIC WIRES.—Aldermen S. B. Puffer, Choate and F. W. Puffer.

ENROLLMENT.—Aldermen McDonald and Choate.

LICENSES.—Aldermen Evans, Johnson and Westall.

LIGHTING STREETS.—Aldermen F. W. Puffer and McDonald.

POLICE.—Aldermen Evans, Johnson and Westall.

REPAIRS OF STREETS.—Aldermen Lovejoy and Evans.

SEWERS.—Aldermen S. B. Puffer, Choate and Lovejoy.

STATE AID.—Aldermen Westall and Lovejoy.

WEIGHTS AND MEASURES.—Aldermen McDonald and Evans.

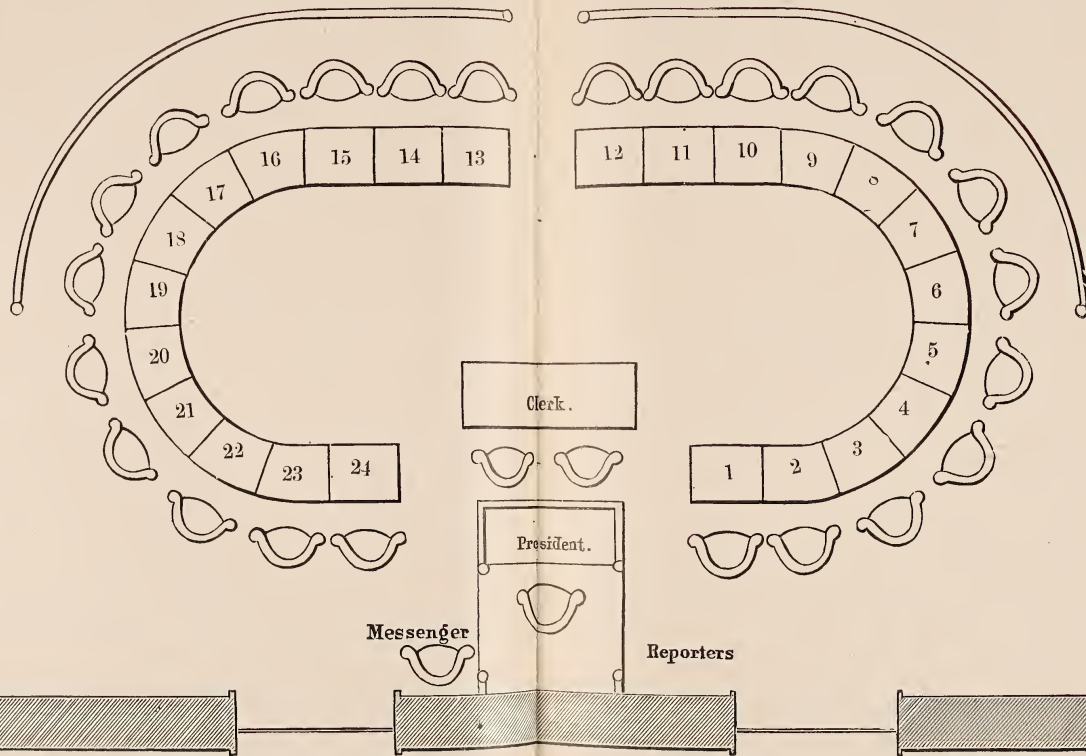
STANDING COMMITTEES OF COMMON COUNCIL.

BILLS IN SECOND READING.—Councilmen Brunette, Custy and Noble.

ELECTIONS AND RETURNS.—Councilmen Thompson, Barclay and Boisvert.

ENROLLMENT.—Councilmen Stafford, O'Sullivan and O'Conner.

PLAY OF COMMON COUNCIL ROOM LOWELL, MASS.



WILLIAM T. BENSON, *President.*

1—CHARLES H. BOISVERT.
2—MOSES WYMAN.
3—CHARLES H. NOBLE.
4—GEORGE E. BARCLAY.
5—WILLIAM L. HILLS.
6—FRANK SCOTT.

7—HUGH A. THOMPSON.
8—GEORGE H. TRYDER.
9—CHARLES T. KILLPATRICK.
10—FRANK DUNLAP.
11—JAMES O'SULLIVAN.
12—Vacant.

13—THOMAS F. HOBAN.
14—CYRILLE CONSTANTINEAU.
15—PATRICK J. CUSTY.
16—JOHN J. O'CONNER.
17—JOHN J. GRADY.
18—WILLIAM H. STAFFORD.

19—JOHN BRUNETTE.
20—PATRICK J. O'BRIEN.
21—FRED. H. ROURKE.
22—ANTHONY ROBINSON.
23—JAMES O'NEILL.
24—JAMES J. DOLAN.

FRANK J. SIMONDS, *Clerk.*
JAMES H. CAHILL, *Messenger.*

CITY OFFICERS, 1893.

CITY CLERK.

MICHAEL J. DOWD.....Office, City Hall
Chosen by the City Council in convention in January. City Charter, Sect. 17.

CITY TREASURER AND COLLECTOR OF TAXES.

AUSTIN K. CHADWICKOffice, City Hall
Chosen by the City Council in convention in January. City Charter, Sect. 17.

AUDITOR OF ACCOUNTS.

DAVID CHASE.....Office, City Hall
Chosen by concurrent vote in January or February. Ord., Chap. 2, Sect. 1.

SUPERINTENDENT OF STREETS.

ROBERT E. CROWLEY.....Office, City Hall
Chosen by concurrent vote in January or February. Ord., Chap. 35, Sect. 1.

SURVEYORS OF HIGHWAYS.

Alderman ELWYN W. LOVEJOY; Councilmen PATRICK J. O'BRIEN
and CYRILLE CONSTANTINEAU.

Chosen by concurrent vote in January or February. City Charter Sect. 17; Ord., Chap. 35, Sect. 1.

CIVIL ENGINEER FOR THE CITY.

GEORGE BOWERS.....Office, City Hall

Chosen by concurrent vote in January or February. Ord., Chap. 13, Sect. 1.

CITY MESSENGER.

JAMES H. CAHILL.....Office, City Hall

Chosen by concurrent vote in January. Ord., Chap. 10, Sect. 1.

CITY SOLICITOR.

JOHN J. HOGAN.....Office, Central Street

Chosen by concurrent vote in January or February. Ord., Chap. 11, Sect. 1.

LIBRARIAN OF THE CITY LIBRARY.

FREDERICK A. CHASE.....Office at the Library

Chosen by the Board of Trustees of the City Library. Chap. 231, Sect. 5, Acts 1888.

TRUSTEES OF THE CITY LIBRARY.

JOHN J. PICKMAN, Mayor, *Ex-Officio*.....Chairman

LARKIN T. TRULL.....Secretary

GEORGE F. RICHARDSON.....Term expires 1894

LARKIN T. TRULL.....“ “ 1895

STEPHEN J. JOHNSON.....“ “ 1896

PHILIP J. FARLEY.....“ “ 1897

FRANK P. PUTNAM.....“ “ 1898

Appointed by the Mayor in December.

Regular meeting last Tuesday in each month.

Chap. 231, Acts 1888.

SUPERINTENDENT OF PUBLIC BUILDINGS.

RICHARD BRAY.....Office, City Hall, entrance City Hall Avenue

Chosen by concurrent vote in January or February. Ord., Chap. 5, Sect. 1.

CITY PHYSICIAN.

WILLIAM P. LAWLER.....Office, Board of Health

Appointed by the Mayor and Aldermen in January, 1891, for three years. Public Statutes Chap. 80, Sect. 15.

SUPERINTENDENT OF BURIALS.

FREDERICK A. BATES.....Office, Board of Health

Chosen by concurrent vote in January or February. Ord., Chap. 4, Sect. 1.

ASSESSORS OF TAXES.

Office, City Hall, Third Floor.

ABEL WHEELER.....Term Expires 1893

NATHAN D. PRATT.....“ “ 1894

JOHN P. MAHONEY.....“ “ 1895

ABEL WHEELER.....*Chairman.*

NATHAN D. PRATT.....*Secretary.*

STEPHEN J. KIRBY.....*Clerk.*

Chosen by concurrent vote in January and February, one member retiring annually. Ord. 1890

ASSISTANT ASSESSORS OF TAXES.

WARD 1.....FRANK H. HAWES

“ 2.....ROBERT L. READ

“ 3.....GEORGE A. LOCKE

“ 4.....C. ARTHUR ABBOTT

“ 5.....AVILA BOURBONNIERE

“ 6.....GEORGE S. CUSHING

Term expires first Monday in January, 1893. Nominated by the Mayor and confirmed by the Board of Aldermen biennially. Ord. 1890.

OVERSEERS OF THE POOR.

Office, City Hall, corner City Hall Avenue and Merrimack Street.

JOHN J. PICKMAN, Mayor.....*Ex-Officio*

JOHN J. KEEFE.....Term Expires 1892

CHARLES L. MARREN.....“ “ 1892

JOHN J. DONOVAN.....“ “ 1892

JOHN NOLAN.....	Term Expires	1893
JAMES GOOKIN.....	“ “	1893
JOSEPH DEXTRA.....	“ “	1893

JOHN J. PICKMAN.....*Chairman.*

CHARLES H. RICHARDSON.....*Secretary.*

Chosen for two years in January, one-half retiring annually. City Charter, Sect. 29. Regular meeting last week-day of the month, at City Farm.

Secretary's office, City Hall, corner City Hall Avenue and Merrimack Street. Office hours, 9 A. M. to 3 P. M. Applications for relief in the forenoon only.

JAMES F. WALSH and NELLIE A. KEYES, *Clerks.*

List of Committees.

ACCOUNTS—Marren, Dextra, Keefe.

AGRICULTURE—Donovan, Keefe, Dextra.

OUTDOOR RELIEF—Mayor, Dextra, Donovan.

CARE AND REPAIR OF BUILDINGS—Gookin, Nolan, Keefe.

CLOTHING—Keefe, Gookin, Donovan.

PROVISIONS AND SUPPLIES—Mayor, Nolan, Gookin.

DISPENSARY—Nolan, Gookin, Marren.

WOOD YARD—Dextra, Nolan, Marren.

Ward Physicians.

WARD 1—	L. J. McDONOUGH.....	159 Worthen Street
“ 2—	A. J. HALPIN.....	14 Central Street
“ 3—	JOSEPH H. MULCAHY.....	Runels Building
“ 4—	W. G. EATON.....	195 Middlesex Street
“ 5—	W. A. JOHNSON.....	19 Kirk Street
“ 6—	CHARLES H. RICKER.....	2 Wymans Exchange

City Dispensary.

Police Building.....Market Street

JOHN F. BOYLE, *Clerk.*

Open week days—9 A. M. to 1 P. M., and 2.30 to 6.30 P. M.

Open Sundays—8 to 10 A. M., and 2 to 4 P. M.

Dispensary Physicians.

Doctors Colton, Ricker, W. A. Johnson, McDonough, Eaton,
and Halpin.

DR. CHARLES H. RICKER, *Secretary*.

INSTITUTIONS AND OFFICERS AT CITY FARM.

The institutions consist of the Almshouse, a Workhouse used for the imprisonment of certain convicts, and "The House for the Employment and the Reformation of Juvenile Offenders in the City of Lowell." The farm embraces about one hundred and twenty-five acres, seventy-five of which are in a high state of cultivation.

CORNELIUS E. COLLINS, *Superintendent*.

JAMES J. QUINN, *Teacher and Chaplain*.

Appointed by the Overseers of the Poor, annually, at last meeting in December.

MEMBERS OF THE LOWELL WATER BOARD.

Office, City Hall.

MILES F. BRENNAN..... *President*.

From the Board of Aldermen: JAMES W. CASSIDY.

From the Citizens:

ARTHUR F. SALMON	Term expires	1893
EDWARD W. THOMAS....	Resigned Feb. 3, 1893,	" " 1894
MILES F. BRENNAN.....	" "	1895
RICHARD B. ALLEN.....	" "	1896

CHARLES L. KNAPP, *Clerk*.

ROBERT J. THOMAS, *Superintendent*.

The members of the Lowell Water Board are chosen by concurrent vote in January or February for a term of four years from the first Monday of March following their election, one member retiring annually. The member from the Board of Aldermen is elected annually.

The Superintendent is chosen in March by the Board.

The Clerk is chosen by the Board. Ord. 1889 amending Chap. 39 of the revised Ordinances.

COMMISSIONERS OF SINKING FUND.

HENRY G. CUSHING.....	Term expires	1894
PETER F. CONATON.....	“ “	1895
JOHN H. COFFEY.....	“ “	1896

AUSTIN K. CHADWICK, *Secretary and Treasurer.*

The Commissioners are elected under the provisions of Chapter 29 of the Public Statutes, Section 10.

BOARD OF CIVIL SERVICE EXAMINERS.

JOHN J. COLTON, M. D., CHARLES H. CONANT, JOSEPH SMITH.
CHARLES H. CONANT, *Secretary.*

FIRE DEPARTMENT, 1892-93.

The Chief Engineer is appointed by the Mayor¹ and Aldermen in the month of March or April, for the term of three years from the first day of May next succeeding.

The Assistant Engineers are appointed annually by the Mayor and Aldermen in the month of March or April, for the term of one year from the first day of May next succeeding. All other members of the Fire Department are nominated by the Board of Engineers, and appointed by the Mayor and Aldermen; and vacancies may be filled.

City Charter Sect. 31; Ord., Amending Chapter 20, Sect. 1; Pub. Stat., Chap. 35.

Chief Engineer.

EDWARD S. HOSMER.....12 Livermore Street
Office, Engine House, Middle Street.

Assistant Engineers.

JAMES F. NORTON.....18 Ames Street
GEORGE F. SALMON.24 Mt. Washington Street
EDWARD MELOY.....68 Charles Street
HENRY W. BURTON.....4 Kimball Avenue

JAMES F. NORTON, *Clerk of the Board.*

The Clerk is chosen by the Engineers.

Operator of the Fire Alarm Telegraph.

G. B. WHITNEY.....Residence, 80 Middle Street

Committee on Fire Department.

Aldermen F. W. PUFFER and CHOATE; Councilmen O'NEILL,
ROBINSON and DOLAN.

POLICE DEPARTMENT.

City Charter Sect. 19; Ord., Chap. 28; Chap. 279, Acts of 1867. Ord. 1892.

The members of this Department, except the Chief of Police, are appointed by the Mayor and Aldermen as police officers and watchmen, with all the powers of constables, except the power of serving and executing civil process, and hold their offices during the pleasure of the Board of Aldermen.

Police Roll.

CHARLES HOWARD, Chief of Police.....34 Livingston Street
JAMES A. MCQUADE, Senior Deputy.....95 Concord Street
GEORGE R. DAVIS, Jun. Dep. Chief of Police...11 Huntington Street
FRANK GOODWIN, Inspector of Police (Liquor)...115 Appleton Street
DANIEL M. HAYES, Inspector of Police.....6 Crane Avenue
CHARLES LAFLAMME, Inspector of Police.....120 School Street
MICHAEL E. McDONALD, Inspector of Police.....46 High Street
DAVID J. DONALDSON, Inspector of Police..204 E. Merrimack Street
REDMOND WELCH, JR., Inspector of Police.....42 North Street
JAMES DUNLAVY, Sergeant of Police.....119 Cross Street
WILLIAM R. KEW, Sergeant of Police.....15 Princeton Street
JAMES E. WEBSTER, Sergeant of Police.....205 Westford Street
JACOB G. FAVOR, Warrant Officer.....65 Chelmsford Street
PETER CAWLEY, Warrant Officer.....234 Bridge Street
ISAAC L. LIBBY, Court Officer and Janitor.....11 Coral Street
JAMES McLAUGHLIN Keeper.....170 Stackpole Street

Patrolmen.

ALLEN, THOMAS E.....16 West Street
BLOOD JOSIAH S.....97 Liberty Street

BOYLE, JAMES	45	1-2 Hampshire Street
BRADY, PATRICK H.	34	London Street
BREAULT, ELOI N.	122	School Street
BREEN, DENNIS J.	1	Cushing Street
BROSNAN JAMES	99	Perry Street
BUCHANAN, JOHN	60	Beech Street
BUMPS, WILLIAM G.	3	Durant Street
CLEMENT, HORACE W.		Eighteenth Street
CONNORS, MARTIN	34	Pond Street
CORCORAN, PETER T.	160	High Street
CREAHIN, JOHN	335	West Pine Street
CROWLEY, JOHN B.	222	Market Street
CROWLEY, JOHN J.	18	Walnut Street
CURRAN, PETER	112	Worthen Street
DENNETT, JOHN S.	35	Fourth Street
DOW, JAMES E.	16	C Street
DOWNEV, HUGH	9	Chestnut Street
DUNCAN, ALEXANDER	12	South Highland Street
DUNFEY, JOHN M.	1	Fourth Avenue
FARRINGTON, HENRY	5	Coral Street
FITZPATRICK, PATRICK	20	West Pine Street
FOX, EDWARD		Lawrence Street
FOX, FRANK	53	Newhall Street
FOX, JOHN W.	70	South Street
GALLIVAN, JOHN F.	120	School Street
GARDNER, WILLIS L.	316	Westford Street
GOODHUE, DAVID H.	163	School Street
GRADY, WILLIAM H.	15	Lundberg Street
GREGG, CHARLES	58	Fort Hill Avenue
GRINNELL, ENOCH N.	46	Appleton Street
HICKSON, JOHN	30	Mammoth Road
HOLLAND, JAMES E.	10	Second Avenue
HOLMAN, ALFRED M.	1	Powell Street
HOWARD, CORNELIUS	57	Whipple Street
HUBIN, JOHN D.	44	Third Street

HURLEY, JAMES F.....	Woodworth Avenue
INGALLS, LINDSEY E.....	62 Beach Street
JONES, WILLIAM B.....	101 Branch Street
LEIGHTON, JOHN L.....	4 Horn Street
LENNON, MICHAEL J.....	10 Pleasant Street
LANE, DANIEL W.....	18 Nichols Street
LIBBY, ALBERT E.....	39 Eighteenth Street
MARKHAM, JAMES.....	13 Burns Street
MARSHALL, GEORGE W.....	42 Parker Street
MCINTEE, CORMACK.....	73 Fulton Street
McKAY, JOHN H.....	100 Bartlett Street
McKENZIE, JOHN R.....	11 Arlington Street
McNABB, JAMES.....	Mammoth Road
MOFFATT, WILLIAM B.....	33 London Street
MOORE, FRANCIS E.....	237 1-2 Middlesex Street
MULRY, JOHN J.....	59 Bowers Street
O'BRIEN, WILLIAM H.....	34 East Pine Street
O'CONNELL, JOHN.....	69 Pleasant Street
O'CONNELL, MICHAEL.....	46 Lyons Street
O'DONNELL, PETER F.....	248 Merrimack Street
PAGE, ALONZO J.....	286 Westford Street
PALMER, GEORGE B.....	Aiken Avenue
PROVENCHER, NAPOLEON.....	118 Central Street
QUINN, HENRY F.....	106 Lakeview Avenue
RILEY, JAMES.....	65 Pleasant Street
RYDER, CHESTER E.....	58 South Whipple Street
SANBORN THOMAS J.....	86 Grove Street
STOWELL, ROBERT.....	119 Lawrence Street
TILTON, HERMON N.....	12 Whipple Street
WALSH, JOHN A.....	11 Third Avenue
WHITNEY, FRANK H.....	186 Beacon Street
WHITTAKER JOHN T.....	23 Robinson Court

RESERVE POLICE.

COLEMAN, THOMAS F.....	57 Union Street
COGGER, DANIEL W.....	44 Third Street
HOGAN, DAVID H.....	38 Fremont Street
KANE, BARTHOLOMEW.....	18 Mill Street
MAGUIRE, HUGH.....	33 Abbott Street
MAHER, MARTIN A.....	27 Walnut Street
MURPHY, ANTHONY.....	25 Pleasant Street
O'CONNOR, MORRIS J.....	255 Market Street
RYAN, BARTHOLOMEW.....	246 Lawrence Street
SWAN, EDWARD T.....	70 Congress Street

KEEPER OF LOCK-UP.

CHARLES HOWARD.

MATRON.

MARGARET WALLACE.....	10 William Street
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OPERATOR.

JAMES H. HOWARD.

DRIVERS OF PATROL WAGON.

FREDERICK L. DAVIS.	J. W. TILTON.
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HOSTLER.

J. W. KILBURN.

CONSTABLES.

HARRISON W. STREETER.	FRED N. EDGELL.
FREDERICK A. BATES.	PIERRE A. BROUSSEAU.
CHARLES HOWARD.	JOHN McMANUS.
FRANK GOODWIN.	GEORGE T. KIMBALL.
D. J. DONALDSON.	CHARLES F. CARR.
JACOB G. FAVOR.	PETER CAWLEY.
W. R. KEW.	JOHN P. SEARLE.
ISAAC L. LIBBY.	JOSEPH S. LAPIERRE.
SIMON B. HARRIS.	GEORGE R. DAVIS.
MICHAEL H. McCUE.	JOHN B. SWIFT.
JOHN A. McQUADE.	ISADORE TURCOTTE.
EDWARD J. NOYES.	CHARLES LAFLAMME.
DANIEL M. HAVES.	

DAVID FITZGERALD.
 AUGUSTE GUILLETT.
 MICHAEL E. McDONALD.
 FRED M. BURROWS.
 ALBERT HAMEL.
 REDMOND WELCH.

CHARLES A. QUINN.
 HERMES DUVAL.
 MICHAEL J. O'BOYLE.
 JAMES A. McQUADE.
 JAMES B. TRUEWORTHY.

City Charter, Sect. 19; Ord., Chap. 37, Sect. 2.

POLICE COURT.

SAMUEL P. HADLEY.....*Standing Justice.*
 JOHN J. PICKMAN, }
 JOHN F. FRYE. }*Special Justices.*
 JAMES F. SAVAGE.....*Clerk.*

HEALTH COMMISSIONER.

CHARLES HOWARD.....Office, Police Station

Chosen by concurrent vote by nomination commencing in the Board of Aldermen, in January or February. Ord., Chap. 37, Sect. 1.

BOARD OF HEALTH.

JAMES B. FIELD, M. D., 1892-'93.
 JAMES BAYLES, 1893-'94.
 WILLIAM P. LAWLER, City Physician, *Ex-Officio.*
 JAMES B. FIELD, M. D., *Chairman.*

Appointed by the Mayor and Board of Aldermen in January. Chap. 80, Pub. Stat. Sect. 8, Ord., Chap. 22, Sect. 1.

BOARD OF REGISTRARS OF VOTES.

CHARLES H. MCINTIRE.....Term expires May 1, 1894
 JAMES F. OWENS....." " " 1895
 FRANK E. DUNBAR....." " " 1896
 MICHAEL J. DOWD, City Clerk, *Ex-Officio.*
 CHARLES H. MCINTIRE, *Chairman.*

Chapter 423, Section 18, Acts of 1890.

FENCE VIEWERS.

SIMON B. HARRIS. LEROY C. HALL. JOSHUA M. HADLEY.

Chosen by concurrent vote by nomination commencing in the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 1.

FIELD DRIVERS.

W. H. GRADY. W. R. KEW.
JAMES DUNLAVEY. JAMES E. WEBSTER.

Chosen by concurrent vote commencing in the Board of Aldermen in January or February. Ord. Chapter 37, Sect. 1.

POUND KEEPER.

LAWRENCE J. THYNE.

Chosen by concurrent vote by nomination commencing in the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 1.

SEALER OF WEIGHTS AND MEASURES.

NATHANIEL E. ANNIS.....265 Middlesex Street

Appointed by the Board of Aldermen by nomination in March or April. Pub. Stat. Chap. 65, Sect. 8: Acts of 1882, Chap. 42. Ord. Chap. 37, Sect. 2.

INSPECTOR OF MILK AND VINEGAR.

THOMAS O. ALLEN....Office, Board of Health, 76 Merrimack Street

Appointed by the Board of Aldermen by nomination in January or February. Ord., Chap. 37, Section 2.

**Inspector of Provisions and of Animals Intended for Slaughter or
Kept for the Production of Milk.**

THOMAS O. ALLEN....Office, Board of Health, 76 Merrimack Street

Appointed by the Mayor and Aldermen annually in April. Acts of 1892, Chap. 195, Section 1: amending Pub. Stat., Chap. 58, Sect. 1.

INSPECTOR OF PETROLEUM OILS.**THOMAS O. ALLEN.**

Appointed by the Mayor and Aldermen. Pub. Stat., Chap. 57, Sect. 6.

INSPECTORS OF BOILERS.

RICHARD DOBBINS.....Office, Tanner Street
 BARTHOLOMEW SCANNELL.....Office, 36 Tanner Street
 JAMES A. READY.....

Pub. Stat. Chapter 102, Sect. 49.

INSPECTOR OF PROVISIONS.

FREDERICK A. BATES.....Office, Board of Health
 GEORGE R. DAVIS.....Office, Police Station
 DANIEL W. LANE.....“ “ “
 JAMES E. WEBSTER.....“ “ “

Appointed by the Mayor and Aldermen. Pub. Stat., Chap. 58, Sect. 1.

FISH WARDEN.**SAMUEL PALMER.**

Appointed by the Mayor and Board of Aldermen. Pub. Stat., Chap. 91, Sect. 42.

Measurer of Wood and Bark—Superintendent of City Scales—Inspector of Bale or Bundle Hay.

RICHARD J. NOONAN.....Office at City Scales, rear Market House Building.

Appointed by the Board of Aldermen in January or February. Ord., Chap. 40, Sect. 1. Chap. 21, Section 1.

Measurers of Wood and Bark Brought by Water or Railroad Cars into the City.

JOHN F. BATEMAN.**JOSEPH HOVEY.**

Appointed by the Board of Aldermen in January or February. Ord., Chap. 40, Sect. 1.

MEASURERS OF WOOD AND BARK.

HENRY K. GATES.....	
COLFAX S. MANSUR.....	
EDWIN E. AREY.....	Tannery, Ayer's City
JOHN F. BATEMAN.....	
EDMUND BRICKETT.....	
JAMES F. CHOATE.....	
ETHAN D. CUTTING.....	
PATRICK COURTNEY.....	City Yard
ROBERT E. CROWLEY.....	City Yard
JOHN DOYLE.....	
WILLIAM H. HARRIGAN.....	City Yard
CHARLES E. GUTHRIE.....	
CYRUS F. HILL.....	Lowell Machine Shop
JOSEPH HOVEY.....	
ALBERT PUFFER.....	
HARRY L. STANLEY.....	63 Moody Street
HENRY J. WILLIAMS.....	
CLARENCE G. COBURN.....	

Appointed by the Board of Aldermen in January or February. Ord., Chap. 40, Sect. 1.

MEASURERS OF GRAIN.

WILLIS J. HILL.	FRANK H. PARKER.
GEORGE W. TILTON.	HENRY J. WILLIAMS.

Fees 2 1-2 mills a bushel for measuring. Appointed by the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 2.

MEASURERS OF UPPER LEATHER.

EDWIN E. AREY.	WILLARD A. BROWN.
ROBERT BOOTH.	WILLIAM H. WHITE.

Appointed by the Board of Aldermen in April. Ord., Chap. 37, Sect. 2.

SURVEYORS OF LUMBER.

T. CHARETTE.	CLARENCE O. ESTABROOK.
ALFRED P. BATEMAN.	GEORGE C. HATCH.
JOHN F. BATEMAN.	E. BRICKETT.
FREDERICK CONANT.	M. B. McDONALD.
LEO. A. MILLER.	DANIEL A. McDONALD.

GEORGE A. ROPER.
 GUILFORD D. FARLEY.
 FRANK P. CHENEY.
 JAMES CRISTY.
 ORA M. SNELL.
 PATRICK GAFFNEY.
 EDWARD W. LATOUR.
 ORESTES M. PRATT.
 GEO. E. LEAVITT.
 CHARLES D. ROBINSON.

ALBERT I. GILMAN.
 CYRUS F. HILL.
 JOHN H. HUNTLEY.
 EDWARD STOCKMAN.
 EPHRAIM SIMONDS.
 JOHN VAN TASSEL.
 A. B. WOODWORTH, JR.
 L. A. BRAYNARD.
 CHARLES S. FLANDERS.
 JOHN LARNED.

Chosen by concurrent vote by nomination commencing in the Board of Aldermen in January or February. Ord., Chap. 37, Sect. 1.

SURVEYORS OF PLASTERING, BRICK OR STONE WORK AND PAINTING.

JOHN F. BATEMAN.
 ORIN F. OSGOOD.
 ALDEN B. ILSLEY.
 JOSEPH HOVEY.
 ALFRED E. LYFORD.
 ATIS OSGOOD.

WILLIAM A. FAVOR.
 ORA M. SNELL.
 HENRY O. BROOKS.
 GEORGE BOWERS.
 MELVIN B. SMITH.
 PHILIP H. ILSLEY.

Appointed by the Board of Aldermen in January or February. Ord., 37, Sect. 2.

WEIGHERS OF HAY AND OTHER ARTICLES.

ROBERT E. CROWLEY.....City Stables
 EDMUND BRICKETT, at Scales cor. Western Ave. and Fletcher Street
 PATRICK H. BURNS.....
 CLARENCE G. COBURN.....Scales, Pawtucket Square
 PATRICK COURTNEY.....City Stables
 JOHN DOYLE.....
 LEROY C. HALL.....Dutton Street
 L. E. HARMON.....
 WILLIAM H. HARRIGAN.....City Stables
 CYRUS F. HILL.....Lowell Machine Shop
 ALBERT PUFFER.....
 HARRY L. STANLEY.....63 Moody Street
 FRANK C. NICHOLS.....
 JOHN J. GOOKIN.....
 JOHN G. GORDON.....
 RICHARD SWEET.....
 DENNIS E. CONNORS.....
 EDWARD F. CONNORS.....

Appointed by the Board of Aldermen in January or February. Ord., Chap. 21, Sect. 1.

WEIGHERS OF COAL.

E. BRICKETT.	FRANK J. PARKER.
EDWARD CAWLEY.	COLFAX S. MANSUR.
JAMES CAWLEY.	F. C. NICHOLS.
JAMES F. CHOATE.	C. B. KITCHEN.
PATRICK COURTNEY.	ALBERT PUFFER.
EDWARD F. CONNORS.	HARRY L. STANLEY.
DENNIS E. CONNORS.	WILLIAM H. DONOVAN.
ROBERT E. CROWLEY.	EDWARD E. DREWETT.
EDWARD F. CONNORS.	GEORGE W. FARNHAM.
JOHN DOYLE.	HENRY K. GATES.
I. L. HALL.	PATRICK REARDON.
J. G. GORDON.	CHARLES B. RUSHWORTH.
DANIEL W. HORNE.	JOSEPH SCOTT.
FRED HORNE.	DANIEL T. SULLIVAN.
ANNIE ENGLAND.	JAMES SWAN.
L. E. HARMON.	JOHN WARBURTON.
WILLIAM H. HARRIGAN.	HERBERT R. WHITE.
GEORGE E. KELLEY.	SYDNEY W. WIGGIN.
THOMAS J. KENNEDY.	WILLIS J. HILL.
GARDNER W. KING.	E. A. WILSON.
WILLIAM LIVINGSTON.	

Appointed by Board of Aldermen in January or February. Ord., Chap. 37, Sect. 2.

JANITOR OF HUNTINGTON AND JACKSON HALLS.

PIERRE A. BROUSSEAU.

Appointed by the Mayor.

SCHOOL COMMITTEE 1893.

JOHN J. PICKMAN.....*Chairman.*

GEORGE M. HARRIGAN.....*Vice-Chairman.*

ARTHUR K. WHITCOMB.....*Secretary.*

JOHN J. PICKMAN, Mayor..... } *Ex-*
WILLIAM T. BENSON, President of the Common Council..... } *Officiis.*

152 Lawrence Street.

Ward 1—LAWRENCE CUMMINGS.....Term expires 1893

61 Adams Street.

PATRICK KEYES, JR..... “ “ 1894

213 Market Street.

Ward 2—FREDERICK T. WALSH..... “ “ 1893

N. E. Side Eleventh Street.

WILLIAM H. LATHROP..... “ “ 1894

15 First Street.

Ward 3—GEORGE M. HARRIGAN..... “ “ 1893

Office, Lowell Trust Co.

EDWARD GALLAGHER..... “ “ 1894

Sun Office.

Ward 4—FRED WOODIES..... “ “ 1893

Office of L. M. Shop.

RANSOM A. GREENE..... “ “ 1894

25 Walker Street.

Ward 5—WALTER COBURN..... “ “ 1893

19 Congress Street.

ANDREW G. SWAPP..... “ “ 1894

187 Pawtucket Street.

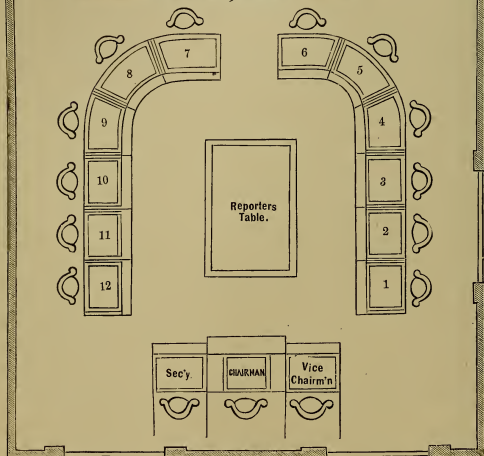
Ward 6—THOMAS P. BOULGER..... “ “ 1893

9 Everett Street.

JOHN H. McNABB..... “ “ 1894

63 Church Street.

PLAN OF
SCHOOL COMMITTEE ROOM
LOWELL, MASS.



JOHN J. PICKMAN, *Mayor.*

GEORGE M. HARRIGAN, *Vice-Chairman.*

ARTHUR K. WHITCOMB, *Secretary.*

1—WILLIAM H. LATHROP.

2—LAWRENCE CUMMINGS.

3—WALTER COBURN.

4—RANSOM A. GREENE.

5—FRED WOODIES.

9—ANDREW G. SWAPP.

7—FREDERICK T. WALSH.

8—THOMAS P. BOULGER.

9—JOHN H. McNABB.

10—PATRICK KEYES, JR.

11—EDWARD GALLAGHER.

12—WILLIAM T. BENSON.

STANDING COMMITTEES.

- ON ACCOUNTS—The Mayor, Messrs. Harrigan, Woodies, Boulger, McNabb.
- ON SCHOOL HOUSES AND HYGIENE—Messrs. Cummings, Gallagher, Lathrop, Boulger, McNabb.
- ON TEACHERS AND TRAINING SCHOOL—Messrs. Swapp, Greene, Gallagher, Coburn, Keyes.
- ON REPORTS AND PRINTING—Messrs. Lathrop, Greene, Gallagher, Walsh, McNabb.
- ON BOOKS AND SUPPLIES—Messrs. Harrigan, Woodies, Coburn, Boulger, Lathrop, McNabb.
- ON SALARIES—The Mayor, Messrs. Cummings, Greene, Coburn, Walsh.
- ON PENMANSHIP AND DRAWING—Messrs. Woodies, Cummings, Walsh, Harrigan, McNabb.
- ON MUSIC—Messrs. Keyes, Woodies, Greene, Harrigan, Boulger.
- ON EVENING SCHOOLS—Messrs. Greene, Cummings, Swapp, Keyes, Walsh.
- ON RULES AND REGULATIONS—Messrs. Boulger, Swapp, Cummings, Walsh, McNabb.
- ON MILITARY INSTRUCTION—Messrs. Walsh, Boulger, Gallagher, Harrigan, Lathrop.
- ON PRIVATE SCHOOLS—The Mayor, Messrs. Swapp, Gallagher, Lathrop, Walsh.
- ON SEWING—Messrs. Gallagher, Keyes, Harrigan, Coburn, Woodies.

REGULAR MEETINGS OF THE SCHOOL COMMITTEE.

January.....	30	July.....	31
February.....	27	August.....	28
March.....	27	September.....	25
April.....	24	October.....	30
May.....	29	November.....	27
June.....	26	December.....	27

SUPERINTENDENT OF PUBLIC SCHOOLS.

ARTHUR K. WHITCOMB.....Office in City Government Building.

OFFICE HOURS: One hour after the forenoon session of the schools, and from 2 to 3 o'clock, Saturday afternoon.

TRUANT COMMISSIONERS.

BICKFORD LANG.

JOHN F. WILLIAMS.

JAMES KELLEY.

Office in City Government Building.

ASSIGNMENT OF SCHOOLS.

THE MAYOR—Reform School.

MR. BENSON—Reform, Middlesex Village.

MR. KEYES—High, Reform, Worthen St., and Cheever St.

MR. CUMMINGS—High, Greene and Morrill.

MR. LATHROP—Varnum and Fourth St.

MR. WALSH—High, Kirk St., West Sixth St., Tenth St., and Lakeview Avenue.

MR. GALLAGHER—London St., Weed St., Cottage St., and Chapel St.

MR. HARRIGAN—High, Butler, Agawam St., and Lyons St.

MR. GREENE—High, Edson, Eliot, Dover St., and Powell St.

MR. WOODIES—Highland, Franklin, Howard St., and Grand St.

MR. SWAPP—High, Bartlett, Cabot St., and School St.

MR. COBURN—High, Pawtucket, Mammoth Road, Cross St., Plain St., and Varnum Avenue.

MR. McNABB—High, Charles St., Central St., Ames St., and Carter Street.

MR. BOULGER—Moody, Pond St., High St., Fayette St., and Sycamore St.

POPULATION OF THE CITY OF LOWELL.

Year.	Population.	Year.	Population.	Year.	Population.	Year.	Population.
1828	3,532	1837	18,010	1855	37,554	1875	49,688
1830	6,477	1840	20,981	1860	36,827	1880	59,485
1832	10,254	1844	25,163	1865	30,990	1885	64,107
1833	12,963	1846	29,127	1866	36,878	1890	77,696
1836	17,633	1850	33,383	1870	40,928	.....	.....

POPULATION, LEGAL VOTERS ETC., BY WARDS.

Wards.	Popula- tion, 1890.	Registered Voters Dec. 1891.	Pre- cincts.	Registered Voters, Dec. 1892.			Vote for Mayor '92	
				Males.	Females.	Total.	Pickman.	Courtney
1....	11,398	Males 1,523	1.....	552	7			
			2.....	574	4			
		Females 0	3.....	587	22	1746	441	1064
2....	13,189	Males 1,962	1.....	362	4			
			2.....	770	28			
		Females 22	3.....	1124	4	2292	1100	884
3....	14,298	Males 2,431	1.....	766	1			
			2.....	1048	1			
		Females 0	3.....	965	2	2783	910	1520
4....	12,860	Males 2,293	1.....	639	2			
			2.....	849	7			
		Females 6	3.....	1239	6	2742	1770	555
5....	15,967	Males 1,937	1.....	695	53			
			2.....	721	31			
		Females 31	3.....	818	64	2382	1012	957
6....	9,984	Males 2,021	1.....	786	47			
			2.....	621	59			
		Females 106	3.....	840	75	2428	864	1085
Total.	77,696	* 12,332	.....	13,956	417	14373	6097	6065

* Males, 12,167; Females, 165.

CATALOGUE
OF THE
GOVERNMENT OF THE CITY OF LOWELL,
IN
CHRONOLOGICAL ORDER OF SERVICE,

From its Institution, 1836, to 1892, inclusive.

1836.

Mayor:

ELISHA BARTLETT.

Aldermen:

William Austin, resigned Oct. 10.
Joseph Tapley, elected November.
Seth Ames,
Aaron Mansur,

Benjamin Walker,
Oliver M. Whipple,
Alexander Wright.

SAMUEL A. COBURN, *City Clerk*.

Common Council:

John Clark, *President*,
Henry J. Baxter,
Jonathan Bowers,
George Brownell,
James Cook,
David Dana,
Erastus Douglass,
Josiah B. French,
Cyril French,
Samuel Garland,
Horatio W. Hastings,
Horace Howard,

Stephen Mansur,
John Mixer,
Thomas Nesmith,
David Nourse,
Thomas Ordway,
James Russell,
John A. Savels,
Sidney Spalding,
Weld Spalding,
Jonathan Tyler,
Tappan Wentworth,
William Wyman.

GEORGE WOODWARD, *Clerk*, died. ALBERT LOCKE, elected.

1837.

Mayor:

ELISHA BARTLETT, † '36.

Aldermen:

Seth Ames, * '36,
John Aiken,
Seth Chellis,

Joseph G. Kittredge,
Joshua Swan,
Alexander Wright, * '36.

SAMUEL A. COBURN, *City Clerk*.

Common Council:

WARD 1.

Joshua Abbott,
James K. Fellows,
Jesse Phelps,
Walter Wright.

WARD 2.

William Fiske,
Thomas Nesmith, '36.
Josiah Osgood,
Joseph Tyler.

WARD 3.

Joseph M. Dodge,
Elisha Huntington, *President*,
William North,
Joseph Tapley.

WARD 4.

William Baker,
Elijah M. Read,
Charles H. Wilder,
William W. Wyman.

WARD 5.

George Brownell, '36,
Osgood Dane,
James Russell, '36.
Tappan Wentworth, '36.

WARD 6.

Andrew Bird,
Benjamin H. Gage,
Jona. T. P. Hunt,
Abram Tilton.

ALBERT LOCKE, *Clerk*.

The figures without other marks indicate membership of the Common Council those years.
† Mayor that year. * Alderman that year. ‡ President of Common Council that year.

1838.

Mayor:

LUTHER LAWRENCE.

Aldermen:

Benjamin F. French,
Charles L. Tilden,
Oliver M. Whipple, *'36,

George H. Carleton,
George Brownell, '36, '37,
Seth Chellis, *'37.

THOMAS ORDWAY, *City Clerk*.

Common Council:

<p>WARD 1. Jesse Phelps, '37, Walter Wright, '37, Eliphalet Brown, Perez Fuller.</p> <p>WARD 2. William Fiske, '37. Aaron H. Sherman, William Upham, Henry J. Baxter, '36.</p> <p>WARD 3. Thomas Hopkinson, Elisha Huntington, †'37, <i>President</i>, Horace Howard, '36, John Mixer, '36.</p>	<p>WARD 4. David Dana, '36, Perley Hale, Benjamin Walker, *'36, William Baker, '37.</p> <p>WARD 5. Garret J. Bradt, Benjamin Wilde, Erastus Douglass, '36, Rufus Paul.</p> <p>WARD 6. Eli Cooper, Thomas L. Randlett, James L. Foot, Calvin Goodspeed.</p>
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ALBERT LOCKE, *Clerk*.

1839.

Mayor:

LUTHER LAWRENCE. — [Died in April.]

ELISHA HUNTINGTON, †'37, †'38.

Aldermen:

Benjamin F. French, *'38,
John O. Green,
Charles L. Tilden, *'38,

George H. Carleton, *'38.
John Clark, †'36.
Oliver M. Whipple, *'36, *'38.

THOMAS ORDWAY, *City Clerk*.

Common Council:

<p>WARD 1. Walter Wright, '37, '38, Harlin Pillsbury, Eliphalet Brown, '38, Forrest Eaton.</p> <p>WARD 2. Jonathan Tyler, '36, John Nesmith, Henry J. Baxter, '36, '38, Jefferson Bancroft.</p> <p>WARD 3. Thomas Hopkinson, '38, <i>President</i>, Jacob Robbins, John G. Locke.</p>	<p>WARD 4. Benjamin Walker, *'36, '38, Samuel Horn, Stephen Carleton, Stephen Mansur, '36.</p> <p>WARD 5. Tappan Wentworth, '36, '37, Lewis McIntire, died Feb., '40, Benjamin Wilde, '38, Garret J. Bradt, '38.</p> <p>WARD 6. Thomas L. Randlett, '38, Joseph S. Holt, John L. Fitts, Daniel Knapp.</p>
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ALBERT LOCKE, *Clerk*.

1840.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39.

Aldermen:Jonathan Tyler, '36, '39,
John R. Adams,
Joseph Bedlow,Harlin Pillsbury, '39,
Seth Ames, *'36, *'37,
Stephen Mansur, '36, '39.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Forrest Eaton, '39,
Sylvanus Adams,
Henry Patch,
R. M. Hutchinson.**WARD 2.**Jefferson Bancroft, '39,
John Nesmith, '39,
Joseph G. Kittredge, *'37,
Josiah Osgood, '37.**WARD 3.**Pelham W. Warren, *President*,
Abner W. Buttrick,
Asa Hall,
Samuel Burbank.**WARD 4.**Ferdinand Rodliff,
Ethan Burnap,
Edward F. Watson,
B. Walker, *'36, '38, '39, died Sept.**WARD 5.**Tappan Wentworth, '36, '37, '39,
Samuel W. Brown,
John J. Crane,
George Dane.**WARD 6.**Daniel Knapp, '39,
George L. Fitts, '39,
Joseph Battles,
Joshua Converse.ALBERT LOCKE, *Clerk*, died October. JOHN G. LOCKE, elected October.**1841.****Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40.

Aldermen:Seth Chellis, *'37, '38,
Jefferson Bancroft, '39, '40,
Cyril French, '36,George H. Carleton, *'38, *'39,
John R. Adams, *'40,
John Aiken, *'37.THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Henry Patch, '40,
George Bragdon,
John W. Holland,
Arnold Welch.**WARD 2.**William Fiske, '37, '38,
Erasmus D. Leavitt,
Jonathan White,
Nathaniel Wilson.**WARD 3.**Samuel Burbank, '40,
Nathaniel Critchett,
Royal Southwick,
Edward Winslow.**WARD 4.**Ethan Burnap, '40,
William Livingston,
John Morrison,
Edward F. Watson, '40.**WARD 5.**Tappan Wentworth, '36, '37, '39,
'40, *President*.
Samuel W. Brown, '40,
John J. Crane, '40,
Phineas Whiting.**WARD 6.**Francis H. Bowers,
Isaac H. Cooper,
William Potter,
John Smith.JOHN G. LOCKE, *Clerk.*

1842.

Mayor:

NATHANIEL WRIGHT.

Aldermen:

Nathaniel Thurston.	William Livingston, '41.
Jefferson Bancroft, '39, '40, '41,	Ithamar A. Beard,
Cyril French, '36, * '41.	John W. Graves.

THOMAS ORDWAY. *City Clerk.*

Common Council:

<p>WARD 1.</p> <p>Jeremiah P. Jewett, John Hadley, James Townsend, Edward J. Payne.</p> <p>WARD 2.</p> <p>John Nesmith, '39, '40. Erasmus D. Leavitt, '41. Joseph W. Mansur, <i>President</i>, James Hopkins.</p> <p>WARD 3.</p> <p>Nathaniel Critchett, '41, Ira Spalding, John Mead, Asa W. Willoughby.</p>	<p>WARD 4.</p> <p>John Morrison, '41. William Carlton. Oliver March, Josiah B. French, '36.</p> <p>WARD 5.</p> <p>James Patterson. Isaac Appleton. Josiah Seavey. Roswell Douglass.</p> <p>WARD 6.</p> <p>James Russell, '36, '37, Jonathan Kendall, Varnum A. Shed, Isaac N. Fitts.</p>
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JOHN G. LOCKE, *Clerk.*

1843.

Mayor:

NATHANIEL WRIGHT, †'42.

Aldermen:

Harlin Pillsbury, '39, *'40, res'd June,	S. Spalding, '36. resigned in June.
Henry C. Johnson.	Joseph Griffin.
Cyril French, '36, *'41, *'42,	Charles L. Tilden, *'38, '39.

THOMAS ORDWAY. *City Clerk.*

Common Council:

<p>WARD 1.</p> <p>Daniel Bixby, Edward J. Payne, '42, Hugh Cummiskey, Walter Wright, '37, '38, '39.</p> <p>WARD 2.</p> <p>Henry J. Baxter, '36, '38, '39, John P. Simonds, Pliny Lawton, Ben Osgood.</p> <p>WARD 3.</p> <p>John Mead, '42. Willard Brown, Ira Spalding, '42, Benjamin J. Gerrish.</p>	<p>WARD 4.</p> <p>Otis Allen, Alfred Gilman, Oliver March, '42. <i>President</i>, William Carlton, '42.</p> <p>WARD 5.</p> <p>James Patterson, '42, David Bradt, John L. Tripp, Benjamin F. Holden.</p> <p>WARD 6.</p> <p>John B. McAlvin, Cyrus Battles, Sewall G. Mack, Charles F. Mitchell.</p>
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JOHN G. LOCKE. *Clerk.*

1844.

Mayor:

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41.

Aldermen:

Henry Smith,
Selwin Bancroft,
O. M. Whipple, *'36, *'38, *'39.

Edward F. Watson, '40, '41,
Joseph Grifflin, *'43.
John Wright.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**

Forrest Eaton, '39, '40,
Gilman N. Nichols,
Hugh Cumiskey, '43.
David Healey.

WARD 2.

John P. Simonds, '43,
Ben Osgood, '43.
Amos Merriam.
John Clark, †'36, *'39, *President.*

WARD 3.

Charles B. Coburn,
George Choate,
Isaac Scripture,
William C. Gray.

WARD 4.

Asa Wetherbee,
Abner W. Buttrick, '40,
Horatio G. F. Corliss,
Charles H. Wilder, '37.

WARD 5.

John L. Tripp, '43,
David Bradt, '43,
John Wright,
Nathaniel Wright, Jr.

WARD 6.

Sewall G. Mack, '43.
James Russell, '36, '37, '42,
Jonathan Kendall, '42.
Gilman Gale.

JOHN G. LOCKE, *Clerk.*

1845.

Mayor:

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44.

Aldermen:

Henry Smith, *'44.
Selwin Bancroft, *'44.
O. M. Whipple, *'36, *'38, *'39, *'44.

Edward F. Watson, '40, '41, *'44.
John C. Dalton.
Daniel Knapp, '39.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**

Gilman N. Nichols, '39,
Danforth P. Brigham,
Jonathan Adams,
Willard C. Welch.

WARD 2.

John P. Simonds, '43, '44,
Daniel Balch,
William Brown,
Daniel S. Richardson, *President.*

WARD 3.

Isaac Scripture, '44,
William C. Gray, '44,
George Choate, '44,
Hapgood Wright.

WARD 4.

Abner W. Buttrick, '40, '44,
Asa Wetherbee, '44,
Charles H. Wilder, '37, '44,
Josiah Sawtell.

WARD 5.

Nathaniel Wright, Jr., '44,
Amos Hyde,
Edward Sherman,
James Fenno.

WARD 6.

Gilman Gale, '44,
John B. McAlvin, '43.
Samuel Fay, Jr.,
Lorenzo P. Wright.

JOHN G. LOCKE, *Clerk.*

1846.**Mayor:****JEFFERSON BANCROFT, '39, '40, *'41, *'42.****Aldermen:**

Henry Smith, *'44, *'45,
 Selwin Bancroft, '44, *'45,
 William C. Gray, '44, '45,
 Joseph Butterfield,

John C. Dalton, '45.
 D. Knapp, '39, *'45, resigned July,
 Isaac Cooper, '41, elected August.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**

Gilman N. Nichols, '39, '45,
 Danforth P. Brigham, '45,
 Willard C. Welch, '45,
 Thomas S. Hutchinson.

WARD 2.

Daniel Balch, '45,
 William Brown, '45,
 Daniel S. Richardson, †'45, *President*,
 Zadock Rogers.

WARD 3.

Hapgood Wright, '45,
 Isaac Farrington,
 Joel Powers,
 Franklin Mead.

WARD 4.

Josiah Sawtell, '45,
 Solon Stevens,
 David J. Moody,
 William Fletcher.

WARD 5.

Amos Hyde, '45,
 Horatio G. F. Corliss, '44,
 Jonathan Bowers, '36,
 Charles M. Short.

WARD 6.

Lorenzo P. Wright, '45,
 John L. Fitts, '39, '40,
 Lewis Packard,
 Columbus J. Hubbard.

JOHN G. LOCKE, *Clerk.***1847.****Mayor:****JEFFERSON BANCROFT, '39, '40, *'41, *'42, †'46.****Aldermen:**

George Bragdon,
 Joseph Butterfield, *'46,
 Linus Child,
 James Fenno, '45.

Elisha Huntington, †'37, †'38,
 †'39, †'40, †'41, †'44, †'45,
 Sewall G. Mack, '43, '44,
 Stephen Mansur, '36, '39, *'40,
 Josiah Sawtell, '45, '46.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**

William Conihe,
 James C. Crombie,
 David S. Bachelder,
 Jesse Huse.

WARD 2.

Samuel W. Brown, '40, '41,
 Hannibal Powers,
 William Newman,
 Otis L. Allen.

WARD 3.

Joel Powers, '46,
 Franklin Mead, '46,
 Isaac Farrington, '46,
 Samuel G. Davis.

WARD 4.

Joel Adams, *President*,
 Horatio Fletcher,
 Solon Stevens, '46,
 Stephen A. Coburn.

WARD 5.

Ignatius Tyler,
 Edward C. Johnson,
 Elihu Gates,
 Charles M. Short, '46.

WARD 6.

Thomas Wentworth,
 Isaac N. Parker,
 John R. Southwick,
 Isaiah Morse.

JOHN G. LOCKE, *Clerk.*

1848.

Mayor:

JEFFERSON BANCROFT, '39, '40, * '41, * '42, † '46, † '47.

Aldermen:

David Dana, '36, '38.

Erastus Douglass, '36, '38,

Jacob Graves, resigned in June,

William Newman, '47,

Gilman N. Nichols, '39, '45, '46,

Daniel S. Richardson, † '45, † '46,

Josiah Sawtell, '45, '46, * '47,

O. M. Whipple, * '36, * '38, * '39, * '45.

THOMAS ORDWAY, *City Clerk*.

Common Council:

WARD 1.

William Conihe, '47,

James C. Crombie, '47,

Jesse Huse, '47,

Gerry Wilson.

WARD 2.

Otis L. Allen, '47,

William H. Flagg,

John Nesmith, '39, '40, '42,

Hannibal Powers, '47.

WARD 3.

Alfred Gilman, '43,

Thomas Hopkinson, '38, '39, *President*,

Ransom Reed,

Nathaniel Critchett, '41, '42.

WARD 4.

John Avery,

Otis Allen, '43,

Abiel Rolfe,

Horace Howard, '36, '38.

WARD 5.

Ignatius Tyler, '47,

Elihu Gates, '47,

Edward C. Johnson, '47,

Charles M. Short, '46, '47.

WARD 6.

Thomas Wentworth, '47,

Isaac N. Parker, '47,

Jeremiah M. Currier,

Horace Parmenter.

JOHN G. LOCKE, *Clerk*.

1849.

Mayor:

JOSIAH B. FRENCH, '36, '42.

Aldermen:

James B. Francis,

Cyril French, '36, * '41, * '42, * '43,

James H. B. Ayer,

Daniel D. Crombie,

Daniel Carter,

George Brownell, '36, '37, * '38,

Artemas L. Brooks,

Joseph Bedlow, * '40.

THOMAS ORDWAY, *City Clerk*.

Common Council:

WARD 1.

Jesse Huse, '47, '48, resigned Feb.,

William A. Richardson, elected Mar.,

Gerry Wilson, '48,

John W. Smith,

Alfred S. Saunders.

WARD 2.

William H. Flagg, '48,

Ivers Taylor,

Isaac S. Morse, resigned,

Ambrose Lawrence.

WARD 3.

Alfred Gilman, '43, '48,

Elisha Davis,

James Dinsmoor,

Andrew C. Wheelock.

WARD 4.

Nathaniel B. Favor,

Caleb Crosby,

Ezekiel Wright,

Waldo A. Fisher.

WARD 5.

Maynard Bragg,

Joshua Decatur,

Abram T. Melvin,

W. W. Morse.

WARD 6.

William Lamson, Jr.,

Jeremiah M. Currier, '48,

George S. Wright,

John Aiken, * '37, * '41, *President*.GEORGE A. BUTTERFIELD, *Clerk*.

1850.**Mayor:****JOSIAH B. FRENCH**, '36, '42, †'49.**Aldermen:**

James H. B. Ayer, *'49.
 Joseph Bedlow, **'40, *'49.
 Daniel D. Crombie, *'49,
 James B. Francis, *'49,

Philip Hardy.
 John Mixer, '36, '38,
 Josiah G. Peabody,
 James Townsend, '42.

THOMAS ORDWAY, *City Clerk*.**Common Council:****WARD 1.**

John W. Smith, '49.
 Daniel R. Kimball,
 James Watson,
 Jonathan Smothers.

WARD 2.

Ivers Taylor, '49, *President*,
 George Gardner,
 Samuel Lawrence, 2d,
 Samuel J. Varney.

WARD 3.

Jonathan Page,
 John Tripp,
 Fordyce Coburn,
 Joshua Merrill.

GEO. A. BUTTERFIELD, *Clerk*, res'd May.**WARD 4.**

Abner W. Buttrick, '40, '44, '45,
 Caleb Crosby, '49.
 Benjamin Goddard.
 Nathaniel B. Favor, '49.

WARD 5.

George P. Elliot.
 William Fiske, '37, '38, '41,
 George W. Worthen,
 Maynard Bragg, '49.

WARD 6.

Albert Mallard,
 Stephen P. Sargent.
 George S. Wright, '49.
 Wm. Lamson, Jr., '49, res'd May.
 WM. LAMSON, JR., elected May.

1851.**Mayor:****JAMES H. B. AYER**, *'49, *'50.**Aldermen:**

William Fiske, '37, '38, '41, '50,
 Ambrose Lawrence, '49,
 James Townsend, '42, *'50,
 Philip Hardy, *'50,

William North, '37,
 Abiel Rolfe, '48,
 Lucius A. Cutler,
 Joshua Converse, '40.

THOMAS ORDWAY, *City Clerk*.**Common Council:****WARD 1.**

James Watson, '50,
 Jonathan Smothers, '50,
 Charles B. Coburn, '44,
 Stephen Moar.

WARD 2.

Linus Child, *'47,
 George Gardner, '50, *President*,
 Samuel J. Varney, '50,
 Zachariah B. Caverly.

WARD 3.

Fordyce Coburn, '50,
 William Twitchell,
 Darius C. Brown,
 Benjamin C. Sargeant.

WARD 4.

Benjamin Goddard, '50,
 Richard Dennis,
 Holland Streeter,
 Solomon D. Emerson.

WARD 5.

George P. Elliot, '50,
 Edward Fiefield.
 John N. Ford.
 Theodore H. Sweetser.

WARD 6.

George W. Worthen, '50.
 George W. Jones, died Sept.,
 Stephen P. Sargent, '50.
 Albert Mallard, '50.

WILLIAM LAMSON, JR., *Clerk*.

1852.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44, †'45, *'47.

Aldermen:

Joseph Bedlow, *'40, *'49, *'50,

Joseph M. Bullens,

Samuel Burbank, '40, '41,

Joseph B. V. Coburn,

Wm. Fiske, '37, '38, '41, '50, *'51,

William North, '37, *'51,

Alpha Stevens,

Samuel J. Varney, '50, '51.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Rufus Rogers,
John C. Smith,
Jeremiah Clark,
Paul Hill.**WARD 2.**Paul Perkins,
Milton Bonney,
William Hovey,
Zachariah B. Caverly, '51.**WARD 3.**Darius C. Brown, '51,
William Twichell, '51,
Benjamin C. Sargeant, '51, *President*,
Michael B. Caswell.**WARD 4.**Holland Streeter, '51,
Elbridge Livingston,
Abram French,
Willard Minot.**WARD 5.**Edward Fifield, '51,
Phineas Whiting, '41,
George W. Patterson,
Jonathan Kendall, '42, '44.**WARD 6.**Leonard W. Jaquith,
Seth Pooler,
Caleb G. Weaver,
William C. Parker.WILLIAM LAMSON, JR., *Clerk.***1853.****Mayor:**

SEWALL G. MACK, '43, '44, *'47.

Aldermen:Elisha Huntington, †'37, †'38, †'39,
†'40, †'41, †'44, †'45, *'47, †'52,

Samuel K. Hutchinson,

Stephen Mansur, '36, '39, *'40, *'47,

Joseph B. V. Coburn, *'52,

Ira Spalding, '42, '43,

Joseph M. Bullens, *'52,

Alpha Stevens, *'52,

Joseph White.

THOMAS ORDWAY, *City Clerk.***Common Council:****WARD 1.**Rufus Rogers, '52,
John C. Smith, '52,
Marcus A. Thomas,
James Cook, '36.**WARD 2.**Paul Perkins, '52,
Milton Bonney, '52,
George G. Bumpus,
George W. Stanley.**WARD 3.**Michael B. Caswell, '52,
Calvin Philbrick,
Leonard Brown,
Henry H. Wilder.**WARD 4.**Abram French, '52,
Henry C. Howe,
Joseph S. Grush,
Samuel K. Pickering.**WARD 5.**George W. Patterson, '52,
Wm. A. Richardson, '49, *Presid't*,
Patrick Conlan,
Jonathan Bowers.**WARD 6.**Caleb G. Weaver, '52,
William C. Parker, '52,
George F. Woods,
C. F. Blanchard.WILLIAM LAMSON, JR., *Clerk.*

1854.

Mayor:

SEWALL G. MACK, '43, '44, *'47, †'53.

Aldermen:

Elisha Huntington, †'37, †'38, †'39, †'40,
 †'41, †'44, †'45, *'47, †'52, *'53,
 J. B. V. Coburn, *'52, *'53, res'd Jan.,
 Samuel K. Hutchinson, *'53,
 Ira Spalding, '42, '43, *'53.

Joseph White, *'53,
 Horatio Fletcher, '47,
 C. F. Blanchard, '53,
 Charles Sperry.

WILLIAM LAMSON, JR., *City Clerk*.

Common Council:

WARD 1.

John C. Smith, '52, '53,
 Paul Hill, '52,
 Marcus A. Thomas, '53,
 Thomas Lennon.

WARD 2.

George W. Stanley, '53,
 William H. Gage,
 Amos A. Taylor,
 William H. Bradley.

WARD 3.

Calvin Philbrick, '53,
 Leonard Brown, '53, declined,
 Darius C. Brown, '51, '52, elected,
 Henry H. Wilder, '53,
 Peter O. C. Frawley.

WARD 4.

Henry C. Howe, '53,
 Joseph S. Grush, '53,
 Samuel K. Pickering, '53,
 Hubbard Wilson.

WARD 5.

William A. Richardson, '49, †'53,
President,
 Jonathan Bowers, '53,
 Patrick Conlan, '53,
 John C. Woodward.

WARD 6.

George F. Woods, '53,
 Charles S. Eastman,
 Levi H. Straw,
 William P. Webster.

LEONARD BROWN, *Clerk*.

1855.

Mayor:

AMBROSE LAWRENCE, '49, '51.

Aldermen:

Wm. Fiske, '37, '38, '41, '50, *'51, *'52,
 Artemas L. Brooks, *'49,
 Daniel Woodward,
 Lorenzo G. Howe,

Andrew T. Nute,
 Abner Frost,
 William S. Johnston,
 Shadrach R. Brackett.

WILLIAM LAMSON, JR., *City Clerk*.

Common Council:

WARD 1.

Maynard Bragg, '49, '50,
 Aaron B. Young,
 Augustus B. Roby,
 George L. Harris.

WARD 2.

William G. Morse,
 George K. Paul,
 Mark H. Cook,
 Joseph A. Patten.

WARD 3.

Alfred Gilman, '43, '48, '49, *President*,
 Daniel Hurd,
 Theodore Warren,
 Stephen K. Fielding.

WARD 4.

Joshua W. Daniels,
 John Bennett,
 Alanson Folsom,
 Francis H. Nourse.

WARD 5.

John C. Woodward, '54,
 Stephen Bartlett,
 Jonathan Johnson,
 Oliver P. Rand.

WARD 6.

Levi H. Straw, '54,
 William T. Whitten,
 Lucien P. Stacy,
 James M. Moore.

LEONARD BROWN, *Clerk*.

1856.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44,
†'45, *'47, †'52, *'53, *'54.

Aldermen:

Edward Tuck,
Samuel Burbank, '40, '41, *'52,
Charles B. Coburn, '44,
William P. Webster, '54,
Hapgood Wright, '45, '46,

Charles H. Wilder, '37, '44, '45,
O. J. Conant, resigned in March,
James H. Rand,
Jonathan Johnson, elected in
June.

WILLIAM LAMSON, JR., *City Clerk.*

Common Council:**WARD 1.**

Enos O. Kingsley,
Abiel Pevey,
David M. Collins,
Marshall E. Thompson.

WARD 2.

Isaac Hinckley,
Seth Gage,
Peter Flanders, Jr.,
Leonard F. Jewell.

WARD 3.

David Rogers,
Benj. C. Sargeant, '51, †'52, *President*,
Henry H. Carroll,
Peter Powers.

WARD 4.

Francis H. Nourse, '55,
Alden B. Buttrick,
Holland Streeter, '51, '52,
James Sands.

WARD 5.

Frederick Holton,
Isaac Place,
Albert Wheeler,
Abiel Rolfe, '48, *'51.

WARD 6.

Eliphalet Hills,
Jonathan P. Folsom,
James K. Fellows, '37,
John K. Chase.

JAMES J. MAGUIRE, *Clerk.*

1857.**Mayor:**

STEPHEN MANSUR, '36, '39, *'40, *'47, *'53.

Aldermen:

Andrew T. Nute, *'55,
John C. Woodward, '54, '55,
Jonathan Smothers, '50, '51,
Samuel W. Stickney.

John B. Tuttle,
Francis H. Nourse, '55, '56,
Jonathan Johnson, '55, *'56,
John Nesmith, '39, '40, '42, '48.

WILLIAM LAMSON, JR., *City Clerk.*

Common Council:**WARD 1.**

Abiel Pevey,
Stephen T. Stanley,
Charles A. Welch,
George F. Scribner.

WARD 2.

William G. Morsé, '55,
William D. Vinall,
Temple Tebbetts,
James M. Howe.

WARD 3.

Benjamin C. Sargeant, '51, †'52, †'56,
David Rogers, '56,
Henry H. Carroll, '56,
Nathan Allen.

WARD 4.

Caleb Crosby, '49, '50,
John F. Howe,
John C. Jepson,
Alanson Nichols.

WARD 5.

Frederick Holton, '56, *President*,
William H. Wiggan,
William Goodale,
Charles Hubbard.

WARD 6.

Erastus Boyden,
Jonathan Kimball,
Robert J. Garrett,
William Nichols.

HENRY A. LORD, *Clerk.*

1858.**Mayor:**

ELISHA HUNTINGTON, †'37, †'38, †'39, †'40, †'41, †'44,
†'45, *'47, †'52, *'53, *'54, †'56.

Aldermen:

Sewall G. Mack, '43, '44, *'47, †'53, †'54,
Samuel W. Stickney, *'57.
Abiel Pevey, '56, '57.
Jeremiah P. Jewett, '42,

Joseph M. Dodge, '37,
Harvey Silver,
Albert Wheeler, '56,
Edwin A. Alger.

JOHN H. McALVIN, *City Clerk.*

Common Council:**WARD 1.**

Charles Wilkins,
John M. Maynard,
John E. Webb,
William Barnard.

WARD 2.

Edward Tuck, *'56,
William P. Webster, '54, *'56,
Andrew Blood,
William F. Salmon.

WARD 3.

Benjamin C. Sargeant, '51, †'52, †'56,
'57, *President*,
Hanover Dickey,
Joseph A. Brabrook,
Benjamin S. Butterworth.

WARD 4.

Enoch P. Young,
Zephaniah Goward,
Jesse Blake,
John F. Howe, '57.

WARD 5.

Willard Dudley,
Samuel T. Manahan,
Isaac Page,
John Avery, 2d.

WARD 6.

William Nichols, '57.
Alpha B. Farr, resigned in Jan.,
Leonard Brown, '53, '54, elec'd Feb.
Erastus Boyden, '57,
James H. Rand, *'56, resign'd May,
Eben'r Burgess, elected in June.

GEORGE GARDNER, *Clerk.*

1859.**Mayor:**

JAMES COOK, '36, '53.

Aldermen:

Lorenzo G. Howe, *'55,
Samuel J. Varney, '50, '51, *'52,
Paul Hill, '52, '54,
Ambrose Lawrence, '49, '51, †'55, re-
signed in April,
Darius C. Brown, '51, '52,

John F. Howe, '57, '58,
Joshua Converse, '40, *'51, re'd Apr.
J. P. Folsom, '56, resign'd in April,
Edward Tuck, *'56, '58, elec'd May,
Sam'l T. Manahan, '58, elec'd May,
Jonathan Ladd, elected in May.

JOHN H. McALVIN, *City Clerk.*

Common Council:**WARD 1.**

John E. Webb, '58,
Charles Wilkins, '58,
William Barnard, '58,
William D. Blanchard.

WARD 2.

W. P. Webster, '54, *'56, '58, *President*,
William F. Salmon, '58,
James M. Howe, '57,
David Nichols.

WARD 3.

George Hobson,
Asahel D. Puffer,
John Willoughby,
Benjamin S. Butterworth, '58.

WARD 4.

Caleb Crosby, '49, '50, '57,
Jesse Blake, '58,
George W. Partridge,
George W. Young.

WARD 5.

Horatio G. F. Corliss, '44, '46,
Luther B. Morse,
Josiah G. Peabody, *'50,
William Goodale, '57.

WARD 6.

Charles A. Stott,
Levi Sprague,
Ebenezer Burgess, '58,
Leonard Brown, '53, '54, '58.

GEORGE GARDNER, *Clerk.*

1860.**Mayor:**

BENJAMIN C. SARGEANT, '51, †'52, †'56, '57, †'58.

Aldermen:

Edward F. Watson, '40, '41, *'44, *'45,
 Lorenzo G. Howe, *'55, *'59,
 James Watson, '50, '51,
 William G. Morse, '55, '57,

Henry H. Wilder, '53, '54,
 Abner Frost, *'55,
 Samuel T. Manahan, '58, *'59,
 William S. Gardner.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Benjamin S. Ireson,
 Enoch Quimby,
 John P. Slocum,
 Amos H. Foster.

WARD 2.

Henry P. Clough,
 Alfred S. Saunders, '49,
 Wm. F. Salmon, '58, '59, *President*,
 Joseph L. Sargent.

WARD 3.

George Hobson, '59,
 Josiah B. Fielding,
 Henry P. Perkins,
 Hocum Hosford.

WARD 4.

George W. Partridge, '59,
 George W. Young, '59,
 Morrill M. Bohonan,
 Caleb Crosby, '49, '50, '57, '59.

WARD 5.

Josiah G. Peabody, *'50, '59,
 Sullivan L. Ward,
 George F. Morey,
 William H. Lamson.

WARD 6.

William Nichols, '57, '58,
 Samuel T. Lancaster,
 Charles A. Stott, '59,
 Foster Nowell.

GEORGE GARDNER, *Clerk.***1861.****Mayor:**

BENJAMIN C. SARGEANT, '51, †'52, †'56, '57, †'58, †'60.

Aldermen:

Samuel T. Manahan, '58, *'59, *'60,
 Jonathan P. Folsom, '56, *'59,
 James Watson, '50, '51, *'60,
 William G. Morse, '55, '57, *'60,
 Hocum Hosford, '60,

Aldis L. Waite,
 David Whitney, declined acceptance,
 Sager Ashworth, elected in May,
 William S. Gardner, *'60.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Frank E. Jewett,
 M. Gilbert Perkins,
 Jacob Baron,
 William D. Blanchard, '59.

WARD 2.

Alfred S. Saunders, '49, '60,
 Joseph L. Sargent, '60,
 Henry P. Clough, '60,
 Henry S. Orange.

WARD 3.

William L. North, *President*,
 George W. Norris,
 Henry P. Perkins, '60,
 James G. Morrison.

WARD 4.

Joseph Cater,
 Joseph B. Keyes,
 Morrill M. Bohonan, '60,
 Abel M. Ayer.

WARD 5.

Sullivan L. Ward, '60,
 Samuel Beck,
 William H. Parker,
 George F. Morey, '60.

WARD 6.

Samuel T. Lancaster, '60,
 Foster Nowell, '60,
 Elon A. Sanborn,
 George E. Dana.

GEORGE GARDNER, *Clerk.*

1862.**Mayor:****HOCUM HOSFORD, '60, * '61.****Aldermen:**

Mertoun C. Bryant,
 Edwin A. Alger, * '58,
 James B. Francis, * '49, * '50,
 William A. Burke,

Isaac F. Scripture,
 Aldis L. Waite, * '61,
 Albert Wheeler, '56, * '58,
 Jona. P. Folsom, '56, * '59, * '61.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Amos D. Wright,
 Frank E. Jewett, '61,
 Horatio G. Burgess,
 Charles F. Hard.

WARD 2.

Benedict O. Carpenter,
 William T. McNeill,
 Lorenzo G. Howe, * '55, * '58, * '60,
 Henry S. Orange, '61.

WARD 3.

George W. Norris, '61,
 Edmund D. Fletcher,
 Everett W. French,
 John Quinn.

WARD 4.

Joseph B. Keyes, '61,
 George Runels.
 John Pettingell,
 Hubbard Willson, '54.

WARD 5.

Rollin C. Downs,
 Albert Mallard, '50, '51,
 Edward Fifield, '51, '52,
 Cleveland J. Cheney.

WARD 6.

Geo. F. Richardson, *President*,
 Albion J. Dudley,
 Elon A. Sanborn, '61,
 Frederick Frye.

GEORGE GARDNER, *Clerk.***1863.****Mayor:****HOCUM HOSFORD, '60, * '61, † '62.****Aldermen:**

James B. Francis, * '49, * '50, * '62,
 Edwin A. Alger, * '58, * '62,
 Abiel Pevey, '56, '57, * '58,
 William A. Burke, * '62,

Isaac F. Scripture, * '62,
 Otis Allen, '43, '48.
 Albert Wheeler, '56, * '58, * '62,
 William Nichols, '57, '58, '60.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Charles F. Hard, '62,
 Amos D. Wright, '62,
 John Cosgrove,
 William A. Wright.

WARD 2.

George F. Sawtell,
 Henry S. Orange, '61, '62,
 Hugh McEvoy,
 Nathaniel Stearns.

WARD 3.

Everett W. French, '62,
 Fordyce Coburn, '50, '51,
 Edmund D. Fletcher, '62,
 John Quinn, '62.

WARD 4.

Atwell F. Wright.
 Josiah Gates.
 William Stafford,
 John McCann.

WARD 5.

James C. Ayer,
 Charles W. Saunders,
 Cyrus H. Latham,
 John E. Downs.

WARD 6.

Geo. F. Richardson, † '62, *Pres.*,
 Albion J. Dudley, '62,
 Benedict O. Carpenter, '62,
 Frederick Frye, '62.

GEORGE GARDNER, *Clerk.*

1864.**Mayor:**

HOCUM HOSFORD, '60, *'61, †'62, †'63.

Aldermen:

William S. Southworth,
 James B. Francis, *'49, *'50, *'62, *'63,
 Dana B. Gove,
 William T. McNeill, '62,

George W. Norris, '61, '62,
 George Runels, '62,
 Cyrus H. Latham, '63,
 George F. Richardson, †'62, †'63.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Alden B. Watson,
 Lewis L. Perrin,
 Frederick S. Tukey,
 John Cosgrove, '63.

WARD 2.

George Ripley, *President*,
 Andrew F. Jewett,
 Artemas S. Young,
 Hoyt W. Hilton.

WARD 3.

Samuel N. Wood,
 Charles W. Dodge,
 Joseph S. Pollard,
 James G. Morrison, '61.

WARD 4.

Atwell F. Wright, '63,
 Daniel Churchill,
 William W. Sherman,
 Francis Jewett.

WARD 5.

John E. Downs, '63,
 Thos. G. Gerrish, res'd June 14,
 Charles Hubbard, '57,
 Cleveland J. Cheney, '62.

WARD 6.

Levi Sprague, '59,
 Tobias L. P. Lamson,
 Addison Putnam,
 Albion J. Dudley, '62, '63.

GEORGE GARDNER, *Clerk.***1865.****Mayor:**

JOSIAH G. PEABODY, *'50, '59, '60.

Aldermen:

Ew'd F. Watson, '40, '41, *'44, *'45, *'60,
 George W. Norris, '61, '62, *'64,
 Dana B. Gove, *'64,
 William T. McNeill, '62, *'64,

Henry H. Wilder, '53, '54, *'60,
 Josiah Gates, '63,
 Cyrus H. Latham, '63, *'64,
 William Brown, '45, '46.

JOHN H. McALVIN, *City Clerk.***Common Council:****WARD 1.**

Alden B. Watson, '64,
 Lewis L. Perrin, '64,
 George N. Osgood,
 John R. Southwick, '47.

WARD 2.

George Ripley, †'64, *President*,
 Andrew F. Jewett, '64,
 Julian V. Keyes,
 Chester W. Rugg.

WARD 3.

Joseph S. Pollard, '64,
 Charles W. Dodge, '64,
 Edward C. Rice,
 Frederick T. North.

WARD 4.

Francis Jewett, '64,
 Benjamin Walker,
 Benjamin L. Googins,
 John Pearson.

WARD 5.

Charles Hubbard, '57, '64,
 James Kent,
 Simeon D. Osterhoudt,
 James Foster.

WARD 6.

Tobias L. P. Lamson, '64,
 Luke C. Dodge,
 Gustavus A. Gerry,
 James M. Moore, '55.

GEORGE GARDNER, *Clerk.*

1866.**Mayor:****JOSIAH G. PEABODY, *'50, '59, '60, †'65.****Aldermen:**

Samuel A. Brown,
 Albert B. Plimpton,
 John R. Southwick, '47, '65,
 Joseph L. Sargent, '60, '61,

Charles W. Dodge, '64, '65,
 Josiah Gates, '63, *'65,
 Henry M. Hooke,
 Albion J. Dudley, '62, '63, '64.

JOHN H. MCALVIN, *City Clerk.***Common Council:****WARD 1.**

William A. Hodge,
 William A. Wright, '63,
 Jacob Baron, '61,
 Rollin C. Downs, '62.

WARD 2.

Andrew F. Jewett, '64, '65,
 George H. Whitmore,
 Julian V. Keyes, '65,
 Chester W. Rugg, '65.

WARD 3.

Edward C. Rice, '65,
 Frederick T. North, '65,
 James N. Pinkham,
 Oliver W. Smith.

WARD 4.

Benjamin L. Googins, '65,
 Alfred Scott,
 Thomas F. Burgess,
 Benjamin Walker, '65.

WARD 5.

Robert H. Butcher,
 John T. Lee,
 George L. Huntoon,
 Jonathan Johnson, '55, *'56, *'57.

WARD 6.

Gustavus A. Gerry, '65, *President*,
 Luke C. Dodge, '65,
 Charles A. Kimball,
 Alfred H. Chase.

GEORGE GARDNER, *Clerk.***1867.****Mayor:****GEORGE F. RICHARDSON, †'62, †'63, *'64.****Aldermen:**

Charles B. Coburn, '44, '51, *'56,
 Hocum Hosford, 60, *'61, †'62, †'63, †'64,
 John R. Southwick, '47, '65, *'66,
 Joseph L. Sargent, 60, '61, *'66,
 Edward C. Rice, '65, '66,

Abner W. Buttrick, '40, '44, '45, '50;
 died June 29, '67.
 Wm. E. Livingston, el. Sept. 9, '67.
 Wm. H. Parker, '61,
 Albion J. Dudley, '62, '63, '64, *'66.

JOHN H. MCALVIN, *City Clerk.***Common Council:****WARD 1.**

John Shepard,
 Calvin Sawtell,
 Foster Wilson,
 M. Gilbert Perkins, '61.

WARD 2.

Gustavus A. Gerry, '65, †'66, *President*,
 Ruel J. Walker,
 William Dobbins,
 Silas Tyler, Jr.

WARD 3.

Jona. P. Folsom, '56, *'59, *'61, *'62,
 Frederick T. North, '65, '66,
 Samuel D. Prescott,
 Nathan M. Wright.

WARD 4.

John B. Hunt,
 John Q. A. Hubbard,
 Alfred Scott, '66,
 Thomas F. Burgess, '66.

WARD 5.

George L. Huntoon, '66,
 George S. Cheney,
 James Foster, '65,
 John T. Lee, '66.

WARD 6.

Alfred H. Chase, '66,
 James Lawton,
 John N. Peirce, Jr.,
 Foster Nowell, '60, '61, resigned
 May 14, '67.
 Wm. Kittredge, elected Sept. 9, '67.

GEORGE GARDNER, *Clerk.*

1868.**Mayor:**

GEORGE F. RICHARDSON, †'62, †'63, *'64, †'67.

Aldermen:

Charles B. Coburn, '44, '51, *'56, *'67.
Francis Jewett, '64, '65,
John M. Pevey, resigned in July.
Charles L. Hildreth, elected in Sept.
Silas Tyler, Jr., '67.

Edward C. Rice, '65, '66, *'67,
William E. Livingston, *'67,
Frederic Frye, '62, '63,
Albion J. Dudley, '62, '63, '64, *'66,
*'67.

JOHN H. McALVIN, *City Clerk.*

Common Council:**WARD 1.**

Calvin Sawtell, '67,
John Shepard, '67,
John F. Merrill,
Frederic T. Greenhalge.

WARD 2.

Francis D. Munn,
Joseph A. Patten, '55,
Ruel J. Walker, '67,
Henry S. Orange, '61, '62, '63.

WARD 3.

George W. Badger,
Samuel D. Prescott, '67,
William Walker,
Albert A. Haggett.

WARD 4.

William H. Anderson,
John Q. A. Hubbard, '67,
Charles T. Crane,
John B. Hunt, '67.

WARD 5.

Edwin Lamson,
George S. Cheney, '67.
William Kelley,
Ethan N. Spencer.

WARD 6.

John N. Peirce, Jr., '67,
James Lawton, '67,
Francis Brown,
Alfred H. Chase, '66, '67, *President.*

GEORGE GARDNER, *Clerk.*

1869.**Mayor:**

JONATHAN P. FOLSOM, '56, *'59, *'61, *'62, '67.

Aldermen:

Francis Jewett, '64, '65, *'68,
Henry H. Wilder, '53, '54, *'60, *'65,
Charles L. Hildreth, *'68,
Cyrus H. Latham, '63, *'64, *'65.

Hapgood Wright, '45, '46, *'56,
John Q. A. Hubbard, '67, '68,
George S. Cheney, '67, '68,
Charles A. Stott, '59, '60.

JOHN H. McALVIN, *City Clerk.* Resigned March 15, 1869.

SAMUEL A. McPHETRES, *City Clerk.* Elected March 15, 1869.

Common Council:**WARD 1.**

Frederic T. Greenhalge, '68,
John H. Durgin, Jr.,
Patrick Keyes,
Benjamin Patch.

WARD 2.

Joseph A. Patten, '55, '68,
Phineas Jones,
Francis D. Munn, '68,
Amos Sanborn.

WARD 3.

George W. Badger, '68,
Albert A. Haggett, '68,
William Walker, '68,
George E. Pinkham.

WARD 4.

William H. Anderson, '68, *Pres.*,
Simeon G. Lyford,
Henry P. Carter,
Epaphras A. Hill.

WARD 5.

William Kelley, '68,
Willard A. Brown,
William O. Fiske,
Edwin Lamson, '68.

WARD 6.

Francis Brown, '68,
Alpha B. Farr, '58,
Lucian P. Stacy, '55,
William Kittredge, '67.

GEORGE GARDNER, *Clerk.*

1870.**Mayor:****JONATHAN P. FOLSOM, '56, *'59, *'61, *'62, '67, †'69.****Aldermen:**

Edward F. Sherman,
 Frank F. Battles,
 Charles L. Hildreth, *'68, *'69.
 Amos B. French,

Hapgood Wright, '45, '46, *'56, *'69.
 John Q. A. Hubbard, '67, '68, *'69.
 Addison Putnam, '64.
 Charles A. Stott, '59, '60, *'69.

SAMUEL A. MCPHETRES, City Clerk.**Common Council:****WARD 1.**

John H. Durgin, Jr., '69.
 Benjamin Patch, '69.
 Patrick Keyes, '69.
 Samuel G. Ladd.

WARD 2.

Phineas Jones, '69.
 John L. Moulton,
 Patrick Cummiskey,
 David G. Skillings,

WARD 3.

Albert A. Haggett, '68, '69. *President.*
 Henry P. Perkins, '60, '61.
 Hocum Hosford, '60, *'61, †'62, †'63,
 †'64, *'67, declined.
 Matthew Donovan,

John L. Meadowcroft, elected Jan. 24.

WARD 4.

Epaphras A. Hill, '69.
 Henry P. Carter, '69.
 Simeon G. Lyford, '69.
 Michael Corbett.

WARD 5.

William O. Fiske, '69.
 Willard A. Brown, '69.
 James D. Hartwell,
 Jeremiah Crowley.

WARD 6.

Alpha B. Farr, '58, '69.
 William Kittredge, '67, '69.
 Lucian P. Stacy, '55, '69.
 John Stott.

GEORGE GARDNER, Clerk.**1871.****Mayor:****EDWARD F. SHERMAN, *'70.****Aldermen:**

Frank F. Battles, *'70,
 William F. Salmon, '58, '59, †'60,
 John W. Smith, '49, '50,
 Amos B. French, *'70,

Albert A. Haggett, '68, '69, †'70,
 Henry C. Howe, '53, '54,
 Frederick Ayer,
 Addison Putnam, '64, *'70.

SAMUEL A. MCPHETRES, City Clerk.**Common Council:****WARD 1.**

John H. Durgin, Jr., '69, '70,
 Samuel G. Ladd, '70,
 Francis N. J. Haviland,
 Joel Knapp.

WARD 2.

William Dobbins, '67,
 John L. Moulton, '70,
 Patrick Cummiskey, '70,
 Amos A. Blanchard.

WARD 3.

Henry P. Perkins, '60, '61, '70, *Pres.*
 John L. Meadowcroft, '70,
 Horace Ela,
 Julius C. Jockow.

WARD 4.

Benj. Walker, '65, '66,
 Michael Corbett, '70,
 Francis H. Chandler,
 Charles T. Goddard.

WARD 5.

Jeremiah Crowley, '70,
 Crawford Burnham,
 Henry C. Church,
 Patrick Lynch.

WARD 6.

Leonard Brown, '53, '54, '58, '59,
 John Stott, '70,
 Abel T. Atherton,
 Nathaniel C. Sanborn.

GEORGE GARDNER, Clerk.

1872.

Mayor:

JOSIAH G. PEABODY, *'50, '59, '60, †'65, †'66.

Aldermen:

Henry C. Howe, '53, '54, *'71,	Frederick T. North, '65, '66, '67,
Alexander G. Cumnock,	Benj. Walker, '65, '66, '71,
Benjamin Patch, '69, '70,	William Kelley, '68, '69,
Gustavus A. Gerry, '65, †'66, †'67,	Alpha B. Farr, '58, '69, '70.

SAMUEL A. MCPHETRES, *City Clerk.*

Common Council:

WARD 1.

John E. Webb, '58, '59,
Alonzo F. Caswell,
Southwell Farrington,
True P. Jordan.

WARD 2.

Leonard Brown, '53, '54, '58, '59, '71,
Amos A. Blanchard, '71,
Joseph S. Brown,
Earl A. Thissell.

WARD 3.

Henry P. Perkins, '60, '61, '70, †'71,
Horace Ela, '71, [Pres.
Julius C. Jockow, '71,
Charles F. Tilton.

WARD 4.

Nathaniel P. Favor,
Nathan W. Frye,
Henry A. Lord,
Alonzo L. Russell.

WARD 5.

Crawford Burnham, '71,
Charles F. Belden,
Luther J. Eames,
William Shepard.

WARD 6.

Abel T. Atherton, '71,
Nathaniel C. Sanborn, '71,
Samuel M. Chase,
Julian Talbot.

GEORGE GARDNER, *Clerk.*

1873.

Mayor:

FRANCIS JEWETT, '64, '65, *'68, *'69.

Aldermen:

Jonathan P. Folsom, '56, *'59, *'61, *'62, '67, †'69, †'70,	Charles A. F. Swan, elected Jan. 14,
George Runels, '62, *'64,	Jacob H. Sawyer,
Edward Tuck, *'56, '58, *'59, declin'd,	Jeremiah Crowley, '70, '71,
Isaac Farrington, '46, '47, declined,	Alpha B. Farr, '58, '69, '70, *'72,
William Dobbins, '67, '71, elec. Jan. 14,	George Stevens.

SAMUEL A. MCPHETRES, *City Clerk.*

Common Council:

WARD 1.

John E. Webb, '58, '59, '72,
Alonzo F. Caswell, '72,
Frank Brady,
Stephen J. Smiley,

WARD 2.

Joseph S. Brown, '72,
Earl A. Thissell, '72,
Daniel Stickney,
Edward P. Woods.

WARD 3.

Albert A. Haggett, '68, '69, †'70, *'71,
Charles F. Tilton, '72, resig'd Mar. 1,
William Bass,
James Owens,
James A. Loughlin, elected April 8.

[Pres.

WARD 4.

Atwell F. Wright, '63, '64,
Nathaniel P. Favor, '72,
Nathan W. Frye, '72,
Henry A. Lord, '72.

WARD 5.

Robert H. Butcher, '66,
Charles F. Belden, '72,
Jared P. Maxfield,
George Smith.

WARD 6.

Nathaniel C. Sanborn, '71, '72,
Samuel M. Chase, '72,
George W. S. Hurd,
Artemas S. Tyler.

GEORGE GARDNER, *Clerk.*

1874.

Mayor:

FRANCIS JEWETT, '64, '65, *'68, *'69, †'73.

Aldermen:

Jeremiah Crowley, '70, '71, *'73,
 Benj. Walker, '65, '66, '71, *'72,
 Alonzo F. Caswell, '72, '73,
 Joseph S. Brown, '72, '73,

Jonathan Kendall, '42, '44, '52,
 George L. Huntoon, '66, '67,
 Nathaniel C. Sanborn, '71, '72, '73,
 George Stevens, *'73.

SAMUEL A. MCPHETRES, *City Clerk*.

Common Council:

WARD 1.

Charles A. Welch, '57,
 Frank Brady, '73,
 Stephen J. Smiley, '73,
 Charles H. Harvey.

WARD 2.

Daniel Stickney, '73,
 Edward P. Woods, '73,
 Charles J. Eastman,
 Edward E. Reed.

WARD 3.

Julius C. Jockow, '71, '72,
 James Owens, '73,
 James A. Loughlin, '73,
 George W. Tilton.

WARD 4.

Charles T. Goddard, '71,
 Nathan W. Frye, '72, '73, *President*,
 Jacob H. Sawyer, *'73,
 Julian A. Richardson.

WARD 5.

Jared P. Maxfield, '73,
 John B. Lyford,
 Samuel P. Marin,
 John Scott.

WARD 6.

George W. S. Hurd, '73,
 Joel A. Abbott,
 Thomas Carolin,
 Jason Fuller.

GEORGE GARDNER, *Clerk*, died May 29.DAVID CHASE, *Clerk*, elected June 4.

1875.

Mayor:

FRANCIS JEWETT, '64, '65, *'68, *'69, †'73, †'74.

Aldermen:

Benj. Walker, '65, '66, '71, *'72, *'74,
 Jacob Rogers,
 John A. Goodwin,
 Joseph S. Brown, '72, '73, *'74,

Hapgood Wright, '45, '46, *'56, *'69,
 James Owens, '73, '74,
 Alden B. Richardson,
 Samuel A. Chase.

SAMUEL A. MCPHETRES, *City Clerk*.

Common Council:

WARD 1.

Charles A. Welch, '57, '74,
 Charles H. Harvey, '74,
 John F. Howard,
 John W. Welch.

WARD 2.

Earl A. Thissell, '72, '73,
 Edward E. Reed, '74,
 William A. Read,
 Leavitt R. J. Varnum.

WARD 3.

Albert A. Haggett, '68, '69, †'70, *'71,
 George W. Tilton, '74, [†'73, *Pres.*
 Charles Cowley,
 Thomas R. Garity.

WARD 4.

Josiah Butler,
 Francis Carll,
 Edward P. Dennis,
 Edward Stockman.

WARD 5.

James D. Hartwell, '70,
 John B. Lyford, '74,
 Orford R. Blood,
 Charles W. Sleeper.

WARD 6.

Joel A. Abbott, '74,
 Thomas Carolin, '74,
 Jason Fuller, '74,
 Albert D. Wright.

DAVID CHASE, *Clerk*.

1876.**Mayor:****CHARLES A. STOTT, '59, '60, *'69, *'70.****Aldermen:**

Jacob Rogers, *'75,	Henry A. Hildreth,
John A. Goodwin, *'75, [†'73, †'75,	George E. Stanley,
Albert A. Haggett, '68, '69, †'70, *'71.	Francis Carll, '75,
Charles F. Belden, '72, '73,	William H. Wiggin, '57.

SAMUEL A. McPHETRES, City Clerk.**Common Council:****WARD 1.**

John W. Welch, '75,
 Lewis Stiles,
 Daniel W. Manning,
 David M. Collins, '56, declined,
 John F. Howard, '75, elected Jan. 11.

WARD 2.

Leavitt R. J. Varnum, '75,
 Charles E. Hallowell,
 Charles Callahan,
 William A. Read, '75.

WARD 3.

Charles Cowley, '75,
 Charles H. Kimball,
 Charles Runels,
 James Howard, died after election,
 William H. Grady, elected Jan. 11.

WARD 4.

Edward Stockman, '75, res. May 23,
 Gardner W. King,
 Stephen H. Jones,
 Charles D. Starbird,
 James W. Bennett, elected June 22.

WARD 5.

Orford R. Blood, '75,
 John F. Kimball, *Pres. from* May 23,
 Charles H. Hanson,
 M. Gilbert Perkins, '61, '67.

WARD 6.

Edwin Sanborn,
 Benjamin C. Dean, *Pres.*, res. May 23,
 Charles H. Walker,
 John J. Pickman,
 Willis Farrington, elected June 22.

DAVID CHASE, Clerk.**1877.****Mayor:****CHARLES A. STOTT, '59, '60, *'69, *'70, †'76.****Aldermen:**

Jeremiah Crowley, '70, '71, *'73, *'74,	Orford R. Blood, '75, '76, seat vacated,
Horace R. Barker,	Stephen B. Puffer, dec. el. Jan. 2,
George E. Stanley, *'76,	Robert Park,
Charles H. Kimball, '76,	George E. Pinkham, '69.
George P. Walker,	

SAMUEL A. McPHETRES, City Clerk.**Common Council:****WARD 1.**

Daniel W. Manning, '76,
 Lewis Stiles, '76,
 John Courtney,
 Frank Brady, '73, '74, res. March 27,
 Jared P. Maxfield, '73, '74, elec. May 8.

WARD 2.

Charles E. Hallowell, '76,
 Francis D. Munn, '68, '69,
 Charles H. Robbins,
 Oliver M. Harding.

WARD 3.

William H. Grady, '76,
 Patrick Lynch,
 Simon Kelly,
 George E. Davis.

WARD 4.

Gardner W. King, '76,
 James W. Bennett, '76,
 Irving K. Goodale,
 Orlando Blodgett.

WARD 5.

John F. Kimball, †'76,
 Charles H. Hanson, '76,
 Peter S. Coburn,
 Robert Goulding.

WARD 6.

Edwin Sanborn, '76,
 John J. Pickman, '76,
 Charles H. Walker, '76,
 Augustus E. Spaulding, d. Jan. 10,
 George S. Cushing, elected Feb. 6.

DAVID CHASE, Clerk.

1878.**Mayor:****JOHN A. G. RICHARDSON.****Aldermen:**

Stephen B. Puffer, * '77,	George E. Scripture,
Robert Park, * '77,	Joseph S. Pollard, '64, '65, [* '77,
Horace R. Barker, * '77,	Jeremiah Crowley, '70, '71, * '73, * '74,
George F. Scribner, '57,	Nathaniel C. Sanborn, '71, '72, '73, * '74.

SAMUEL A. McPHETRES, *City Clerk.***Common Council:****WARD 1.**

John Courtney, '77,
John J. Mealey,
Joseph M. Ambrose,
Charles H. Harvey, '74, '75.

WARD 2.

Oramel A. Brigham,
Edward M. Tucke,
William W. Clark,
Albert W. Monty.

WARD 3.

Simon Kelly, '77,
Edward Cawley,
Henry P. Morris,
Samuel D. Butterworth.

WARD 4.

Irving K. Goodale, '77;
Orlando Blodgett, '77,
Robert G. Bartlett,
Stephen H. Jones, '76.

WARD 5.

Robert Goulding, '77,
Peter S. Coburn, '77,
John F. Kimball, † '76, † '77, *Pres.*,
Enos O. Kingsley, '56.

WARD 6.

George S. Cushing, '77,
Eli W. Hoyt,
Luke B. Taylor,
Miles F. Brennan, to Jan. 22,
Thomas Nesmith, from Jan. 22.

DAVID CHASE, *Clerk.***1879.****Mayor:****JOHN A. G. RICHARDSON, † '78.****Aldermen:**

Horace R. Barker, * '77, * '78,	George E. Scripture, * '78.
Charles A. R. Dimon,	George F. Scribner, '57, * '78,
Joseph S. Pollard, '64, '65, * '78,	Charles F. Howe,
Charles S. Lilley,	Robert Goulding, '77, '78.

SAMUEL A. McPHETRES, *City Clerk.***Common Council:****WARD 1.**

Joseph M. Ambrose, '78,
John O'Donnell,
James Kelly,
Richard J. Noonan.

WARD 2.

Albert W. Monty, '78.
Charles H. Richardson,
William K. Chase, res. Nov. 25.
Edwin A. Robinson.
Edward M. Tucke, '78, elect. Dec. 9.

WARD 3.

Edward Cawley, '78,
Henry P. Morris, '78.
William T. Benson,
Patrick A. Rogers.

WARD 4.

Robert G. Bartlett, '78,
Fred Woodies,
Charles F. Varnum,
Charles E. Farrington.

WARD 5.

Albert W. Burnham,
Ambrose L. Ready,
Joseph M. Wilson,
Edward B. Peirce, *Pres.*

WARD 6.

Eli W. Hoyt, '78,
Luke B. Taylor, '78.
Major A. Shaw,
Miles F. Brennan, '78.

DAVID CHASE, *Clerk.*

1880.**Mayor:****FREDERIC T. GREENHALGE, '68, '69.****Aldermen:**

James D. Hartwell, '70, '75,
 Atwill F. Wright, '63, '64,
 Charles H. Richardson,
 Edwin Lamson, '68, '69,

Isaac F. Scripture, * '62, * '63
 Robert Wood,
 Charles H. Coburn,
 James C. Abbott.

SAMUEL A. MCPHETRES, City Clerk.**Common Council:****WARD 1.**

James Kelly, '79,
 Richard J. Noonan, '79,
 Thomas J. Flynn,
 Lawrence Cummings.

WARD 2.

Edwin A. Robinson, '79,
 Wilbur L. Bates,
 Samuel W. Foster,
 Earl A. Thissell, '72, '73, '75, *Pres't.*

WARD 3.

Peter H. Donohoe,
 William T. Benson, '79,
 Patrick A. Rogers, '79,
 Frank Wood.

WARD 4.

Fred Woodies, '79,
 Charles F. Varnum, '79,
 Charles E. Farrington, '79,
 Charles D. Starbird, '76.

WARD 5.

Joseph M. Wilson, '79,
 Ambrose L. Ready, '79,
 Samuel Hosmer,
 Edward B. Peirce, † '79.

WARD 6.

Benjamin F. Freeman,
 J. Tyler Stevens,
 Charles C. Hutchinson.
 Henry C. Cooper.

DAVID CHASE, Clerk.**1881.****Mayor:****FREDERIC T. GREENHALGE, '68, '69, † '80.****Aldermen:**

Charles H. Richardson, * '80,
 Isaac F. Scripture, * '62, * '63, * '80,
 Robert Wood, * '80,
 Ambrose L. Ready, '79, '80,

Levi Sprague, '59, '64,
 Julius A. Stiles,
 Samuel D. Butterworth, '78,
 Thomas R. Garity, '75.

SAMUEL A. MCPHETRES, City Clerk.**Common Council:****WARD 1.**

Thomas J. Flynn, '80,
 Lawrence Cummings, '80,
 Robert J. Thomas,
 Jeremiah J. Hayes.

WARD 2.

Zachariah D. Hall,
 James M. Howe, '57, '59,
 Hubert M. Potter,
 Moses Gibson.

WARD 3.

Frank Wood, '80,
 Peter H. Donohoe, '80,
 John E. Maguire,
 D. Moody Prescott.

WARD 4.

Julius C. Johnson,
 Stephen C. Davis,
 Edward Garner,
 William N. Osgood.

WARD 5.

Atkinson C. Varnum,
 Samuel Hosmer, '80,
 Samuel P. Marin, '74,
 Albert W. Burnham, '79.

WARD 6.

Charles C. Hutchinson, '80.
 Albert G. Thompson,
 Thomas Nesmith, '78,
 Lawrence J. Smith.

DAVID CHASE, Clerk.

1882.

Mayor:

GEORGE RUNELS, '62, *'64.

Aldermen:

Thomas R. Garity, '75, *'81, *Chair'n.*

* Charles W. Sleeper,

George B. Smith.

William A. Wright, '63, '66,

David Whitaker,

D. Moody Prescott, '81,

George S. Cushing, '77, '78,

John F. Phillips,

† John Welch.

‡ SAMUEL A. MCPHETRES, *City Clerk.*

§ DAVID W. O'BRIEN, " "

* Resigned, May 23; special election to fill vacancy, June 20.

† Elected June 20, to fill vacancy.

‡ Died Sept. 29, 1882.

§ Elected Oct. 4, 1882.

Common Council:

WARD 1.

Robert J. Thomas, '81,

Jeremiah J. Hayes, '81,

Dennis J. Crowley,

John A. Walsh.

WARD 2.

Zachariah D. Hall, '81,

James M. Howe, '57, '59, '81,

Moses Gibson, '81,

James F. Puffer, Jr.

WARD 3.

Frank Wood, '80, '81,

John E. Maguire, '81,

John J. Mead,

James Grady.

WARD 4.

Julius C. Johnson, '81,

Stephen C. Davis, '81.

Edward Garner,

William N. Osgood, *'81.

WARD 5.

Atkinson C. Varnum, '81,

Albert W. Burnham, '79, '81,

Artemas B. Woodworth,

Horace B. Barnes.

WARD 6.

Albert G. Thompson, '81,

Lawrence J. Smith, '81,

Thaddeus S. Cobb,

Miles J. Fletcher.

DAVID CHASE, *Clerk.*

* President Council, 1882.

1883.

Mayor:

JOHN J. DONOVAN.

Aldermen:

John F. Phillips, *'82, *Chairman.*

George B. Smith, *'82,

Robert J. Thomas, '81, '82,

David Whitaker, *'82.

D. Moody Prescott, '81, *'82.

Geo. W. Fifield,

John Welch, *'82,

Miles J. Fletcher, '82.

DAVID W. O'BRIEN, *City Clerk.*

Common Council:

WARD 1.

Dennis J. Crowley, '82.

John J. Hogan,

James H. Cahill,

Daniel Murphy.

WARD 2.

Samuel Lawrence, '50,

Joseph S. Brown, '72, '73, *'74, *'75.

Albert W. Monty, '78, '79,

John F. Thissel.

WARD 3.

James Grady, '82.

John J. Mead, '82,

Patrick J. Smith,

Frank J. Donohue.

WARD 4.

James G. Elliott,

Solomon K. Dexter,

Alonzo L. Russell, '72,

Geo. A. Bennett.

WARD 5.

Edward B. Peirce, ‡'79, '80,

Artemas B. Woodworth, '82,

John P. Mahoney,

Geo. L. Ashworth.

WARD 6.

Lawrence J. Smith, '81, '82,

Thaddeus S. Cobb, '82,

J. Frank Page,

Michael F. Clark.

DAVID CHASE, *Clerk.*

1884.**Mayor:****JOHN J. DONOVAN, †'83.****Aldermen:**

Robert J. Thomas, '81, '82, *'83, *Ch'n.*
 Miles J. Fletcher, '82, *'83,
 George W. Fifield, '83,
 Thaddeus S. Cobb, '82, '83,
 Edward B. Quinn,

Jeremiah Crowley, '70, '71, *'73,
 *'74, *'77, *'78,
 Peter H. Donohoe, '80, '81,
 Freeman B. Shedd.

DAVID W. O'BRIEN, *City Clerk.***Common Council:****WARD 1.**

John J. Hogan, '83, *President.*
 James H. Cahill, '83,
 Daniel Murphy, '83,
 James H. Morrison.

WARD 2.

Joseph S. Brown, '72, '73, *'74, *'75, '83,
 Albert W. Monty, '78, '79, '83,
 Earl A. Thissell, '72, '73, '75, †'80,
 John R. Pike.

WARD 3.

Patrick J. Smith, '83,
 Peter J. Brady,
 Thomas J. Sparks,
 John Nolan.

WARD 4.

James G. Elliott, '83.
 Solomon K. Dexter, '83,
 Alonzo L. Russell, '72, '83,
 George A. Bennett, '83.

WARD 5.

Edward B. Peirce, †'79, '80, †'83,
 George L. Ashworth,
 Joseph M. Wilson, '79, '80.
 James S. Hanson.

WARD 6.

J. Frank Page, '83,
 Michael F. Clark, '83,
 Alfred M. Chadwick,
 Marcellus H. Fletcher.

DAVID CHASE, *Clerk.***1885.****Mayor:****EDWARD J. NOYES.****Aldermen:**

John F. Phillips, *'82, *'83, *Chairman,*
 John F. Howe, '57, '58, *'59,
 William D. Brown,
 George E. Stanley, *'76, *'77,

James D. Hartwell, '70, '75, *'80,
 George F. Penniman,
 Oliver E. Cushing,
 James Francis.

SAMUEL M. CHASE, *City Clerk.***Common Council:****WARD 1.**

Patrick H. Plunkett,
 James H. Morrison, '84,
 Thomas J. Enright,
 Henry F. Keyes.

WARD 2.

George W. Brothers,
 Walter M. Sawyer,
 James R. Fulton,
 Francis D. Munn, Jr.

WARD 3.

Peter J. Brady, '84,
 Patrick J. Smith, '83, '84,
 John Nolan, '84,
 Thomas J. Sparks, '84.

WARD 4.

Arnold S. Welch,
 George A. Roper,
 William A. Lang,
 Frank W. Howe.

WARD 5.

Wilson W. Carey,
 James S. Hanson, '84,
 Henry L. Newhall,
 Elwyn W. Lovejoy.

WARD 6.

Alfred M. Chadwick, '84, *Pres't,*
 George R. Richardson,
 Luke B. Taylor, '78, '79,
 William H. White.

DAVID CHASE, *Clerk.*

1886.**Mayor:****JAMES C. ABBOTT.****Aldermen:**

Jeremiah Crowley, '70, '71, *'73, *'74,
*'77, *'78, *'84, *Chairman*,
John F. Phillips, *'82, *'83, *'85,
Stephen B. Puffer, *'77, *'78,
George E. Stanley, *'76, *'77, *'85,

Daniel Wright,
Samuel D. Butterworth, *'78, *'81,
George F. Penniman, *'85,
James Francis, *'85.

SAMUEL CHASE, *City Clerk*.**Common Council:****WARD 1.**

Peter B. Sherlock,
Patrick H. Plunkett, '85,
Thomas J. Enright,
Timothy H. Brennan.

WARD 2.

Walter M. Sawyer, '85, *President*,
Charles H. Richardson, '79,
James R. Fulton, '85,
Francis D. Munn, Jr., '85.

WARD 3.

Daniel Cleary, '85,
Patrick J. Mahan,
Edward D. McVey,
Thomas J. Sparks, '84, '85.

WARD 4.

Arnold S. Welch, '85,
George A. Roper, '85,
Frank W. Howe, '85,
William A. Lang, '85.

WARD 5.

Henry L. Newhall, '85,
Elwyn W. Lovejoy, '85,
Wilson W. Carey, '85,
Roswell M. Boutwell, '85.

WARD 6.

Lawrence J. Smith, '81, '82, '83,
John E. Drury,
Charles H. Hobson,
Marcellus H. Fletcher, '84.

DAVID CHASE, *Clerk*.**1887.****Mayor:****JAMES C. ABBOTT. † '86.****Aldermen:**

Stephen B. Puffer, *'77, *'78, *'86, *C'n*,
Nathan D. Pratt,
Francis C. Plunkett,
August Fels,

Peter H. Donohoe, '80, '81, *'84,
Miles J. Fletcher, '82, *'83, *'84,
Frederick Frye, '62, '63, *'68,
Marcellus H. Fletcher, '84, '86.

DAVID W. O'BRIEN, *City Clerk*.**Common Council:****WARD 1.**

Michael J. Garvey,
Dennis A. Sullivan,
Daniel Murphy, '83, '84,
Dennis J. Leary.

WARD 2.

Walter M. Sawyer, †'86,
Charles H. Richardson, '79, '86,
George C. Evans,
Horace P. Beals.

WARD 3.

George B. McKenna,
John Nolan, '84, '85,
Daniel Cleary, '86,
Patrick J. Smith, '83, '84, '85.

WARD 4.

Millard F. Wright,
Edmund B. Conant,
Jesse H. Shepard,
Richard Dobbins.

WARD 5.

Roswell M. Boutwell, '86,
George W. Brothers, '85,
Clarence G. Coburn,
James H. Carmichael, *Pres't*.

WARD 6.

Richard B. Allen,
John E. Drury, '86,
Patrick Conlon,
Edward Gallagher.

WILLIAM J. COUGHLIN, *Clerk*.

1888.**Mayor:****CHARLES D. PALMER.****Aldermen:**

George A. Scribner,
George E. Putnam,
Charles Runels, '76,
Charles E. Carter,
Edward D. Holden,

Arthur Staples,
Roswell M. Boutwell, '86, '87,
Alfred M. Chadwick, *Chairman*,
'84, '85.

GIRARD P. DADMAN, *City Clerk*.**Common Council:****WARD 1.**

Dennis A. Sullivan, '87,
Dennis J. Leary, '87,
Daniel Murphy, '83, '84, '87,
Michael J. Garvey, '87.

WARD 2.

Frank J. Sherwood,
Horace P. Beals, '87,
Harry E. Shaw,
Pierre A. Brousseau.

WARD 3.

John F. Rogers,
Owen M. Donohoe,
Thomas J. Sparks, '84, '85, '86,
*John F. Roane,
†Patrick H. Brosnahan.
*Resigned Aug. 9. Special Election to fill
vacancy Sept. 18.
†Elected Sept. 18 to fill vacancy.

DAVID CHASE, *Clerk*.**WARD 4.**

*Millard F. Wright, '87,
Edmund B. Conant, *President*, '87,
Jesse H. Shepard, '87,
Richard Dobbins, '87,
†Alonzo G. Walsh,
*Resigned April 24. Special Election
to fill vacancy June 5.
†Elected June 5 to fill vacancy.

WARD 5.

Charles C. Hartwell,
Clarence G. Coburn, '87,
George W. Brothers, '85,
Joseph S. Lapierre.

WARD 6.

William E. Westall,
Frank Brown,
Richard B. Allen, '87,
Abbott Lawrence.

1889.**Mayor:****CHARLES D. PALMER. †'88.****Aldermen:**

George A. Scribner, *'88,
Walter M. Sawyer, †'86, '87,
George E. Putnam, *'88,
Edward D. Holden,

Roswell M. Boutwell, *Ch'n*, '86, '87, *'88,
John H. Fuller,
William F. Senter,
John E. Drury, '86, '87.

GIRARD P. DADMAN, *City Clerk*.**Common Council:****WARD 1.**

Patrick J. Savage,
Joseph H. Callahan,
Daniel H. Courtney,
William J. Johnson.

WARD 2.

*Samuel C. George,
Pierre A. Brousseau, '88,
Arthur H. Cluer,
Frank J. Sherwood, '88,
†James Stuart Murphy.

*Resigned June 9.
†Elected July 2, to fill vacancy.

WARD 3.

Owen M. Donohoe, '88,
Stephen Garrity,
Patrick H. Brosnahan, '88,
Thomas J. Sparks, '84, '85, '86, '88.

WARD 4.

B. Frank Hale,
Edwards Cheney,
Alonzo G. Walsh, '88,
Frank Gray.

WARD 5.

Orford R. Blood, '75, '76,
Charles C. Hartwell, '88,
Henry W. Ladd,
Henry J. Draper.

WARD 6.

William E. Westall, *Pres't*, '88,
Abbott Lawrence, '88,
Albert Crowell,
Frank Brown, '88.

DAVID CHASE, *Clerk*.

1890.

Mayor:

CHARLES D. PALMER, †'88, †'89.

Aldermen:

Albert D. Carter,
 Watson A. Dickinson,
 John E. Drury, '86, '87, *'89.
 Edmund D. Fletcher,

John H. Fuller, *'89, *Chairman*.
 Walter M. Sawyer, †'86, '87, *'89,
 Samuel E. Snow,
 Joseph M. Wilson, '79, '80, '84,

GIRARD P. DADMAN, *City Clerk*.Common Council:

WARD 1.

Joseph H. Callahan, '89,
 Daniel H. Courtney, '89,
 William J. Johnson, '89,
 Patrick J. Savage, '89.

WARD 2.

Newell Abare,
 Arthur H. Cluer, '89,
 Walter C. Coburn,
 James Stuart Murphy, '89.

WARD 3.

Patrick H. Brosnahan, '88, '89.
 Robert C. Gallagher,
 Charles L. Marren,
 Thomas J. Sparks, '84, '85, '86, '88, '89.

WARD 4.

Edwards Cheney, '89,
 Frank Gray, '89,
 B. Frank Hale, '89,
 Alonzo G. Walsh, '88, '89, *President*.

WARD 5.

Orford R. Blood, '75, '76, '89,
 Herbert M. Jacobs,
 Henry W. Ladd, '89,
 Louis P. Turcotte.

WARD 6.

Albert Crowell, '89,
 Daniel D. Driscoll,
 James Gookin,
 Edward F. Spalding.

DAVID CHASE, *Clerk*.1891.

Mayor:

GEORGE W. FIFIELD, *'83, *'84.

Aldermen:

Richard B. Allen, '86, '87,
 James W. Cassidy,
 Jeremiah Crowley, '70, '71, *'73, *'74,
 *'77, *'78, *'84, *'86, *Chairman*.
 Watson A. Dickinson, *'90.

Thomas J. Enright, '85, '86.
 George H. Frye,
 Stephen B. Puffer, *'77, *'78, *'86,
 *'87,
 George F. Tilton.

MICHAEL J. DOWD, *City Clerk*.Common Council:

WARD 1.

Patrick H. Barry,
 James F. Doherty,
 John J. Sullivan,
 Peter F. Garrity.

WARD 2.

Newell Abare, '90,
 Adolphe Benard,
 Walter C. Coburn, '90,
 George H. Marston.

WARD 3.

Patrick J. Baxter,
 John J. Gilbride,
 Charles H. Marren, '90,
 Thomas J. Sparks, '84, '85, '86, '88,
 '89, '90, *President*.

WARD 4.

Edwin L. Giles,
 Fred Horne,
 Wallace G. Parkin,
 Eugene C. Wallace.

WARD 5.

Herbert M. Jacobs, '90,
 George D. Kimball,
 James A. Speirs,
 Louis P. Turcotte, '90.

WARD 6.

James A. Cawley,
 James J. Dolan,
 Daniel D. Driscoll, '90,
 James Gookin, '90.

DAVID CHASE, *Clerk*.

1892.

Mayor:

GEORGE W. FIFIELD, *'83, *'84, †'91.

Aldermen:

Samuel D. Butterworth, *'78, *'81, *'86.

James W. Cassidy, *'91.

William J. Coughlin.

Albert A. Haggett, '68, '69, †'70, *'71,

*'76, *Chairman*.

Stephen J. Johnson.

Freeman W. Puffer.

Frank E. Stowell.

Charles F. Varnum, '79, '80.

MICHAEL J. DOWD, *City Clerk*.

Common Council.

WARD 1.

John Brunette.

James O'Neill.

Joseph O'Rourke.

John J. Sullivan, '91.

WARD 2.

Adolphe Benard, '91.

George H. Marston, '91.

Frank Scott.

Hugh A. Thompson.

WARD 3.

Patrick J. Baxter, '91.

John J. Gilbride, '91.

Thomas J. Sparks, '84, '85, '86, '88, '89,

'90, '91.

William H. Stafford.

WARD 4.

Edwin L. Giles, '91.

Fred Horne, '91.

Wallace G. Parkin, '91.

Moses Wyman.

WARD 5.

Constant Henotte.

Patrick H. Kehoe.

Joseph A. McDonald.

Charles W. Swan.

WARD 6.

William T. Benson, '79, '80.

James J. Dolan, '91.

Thomas F. Hoban.

Michael F. McCarthy.

DAVID CHASE, *Clerk*.

ORDINANCES OF THE CITY OF LOWELL,
PASSED SINCE 1883.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-four.

AN ORDINANCE REGULATING THE ERECTION AND MAINTENANCE OF
WIRES IN STREETS AND WAYS.

Be it Ordained, by the City Council of the City of Lowell, as Follows :

SECTION I. The Mayor and Aldermen may give to telegraph, telephone, electric light, and other companies desirous of erecting and maintaining wires in the streets and ways of the city, instruments in writing specifying where in said streets and ways the posts of said companies may be located, the kind of posts, and the height to which, and the places where, the wires of said companies shall run. *Provided*, that no such company shall be permitted to erect or maintain their said wires in such positions as to cross from above any wire of the Lowell fire-alarm telegraph. And provided further, that any and all of said companies shall erect and maintain the top-most cross-bar on their said posts for the exclusive use of the wires of the said Lowell fire-alarm telegraph, and such other wires as the city may at any time attach thereto for its own use.

In Common Council, Dec. 10, 1884.

Passed to be ordained.

JOHN J. HOGAN, President.

In Board of Aldermen, Dec. 16, 1884.

Passed to be ordained.

ROBERT J. THOMAS, Chairman.

Approved Dec. 31, 1884.

JOHN J. DONOVAN, Mayor,

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-five.

AN ORDINANCE PROHIBITING THE SALE OR RENTAL OF CITY
PROPERTY BY CITY OFFICIALS.

Be it Ordained, by the City Council of the City of Lowell, as follows:

No property of the City of Lowell shall be sold, let or rented, or disposed of in any way by a superintendent of any department, or by a member of any committee, or by any officer or official whatever, or except by and in pursuance of a vote of an appropriate committee, or of the City Council.

And no property or material sold shall be delivered to the purchaser until the same has been paid for to the City Treasurer, and a receipted bill for the payment of the same shall be shown.

In Common Council, May 26, 1885.

Passed to be ordained.

A. M. CHADWICK, President.

In Board of Aldermen, June 2, 1885.

Passed to be ordained.

JOHN F. PHILLIPS, Chairman.

Approved.

EDWARD J. NOYES, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-five.

AN ORDINANCE TO REGULATE THE CONSTRUCTION, USE AND REPAIRS OF WATER PIPES AND FIXTURES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION 1. All plumbing and piping work done in the construction of all water pipes and fixtures, through which, or by means of which, water is furnished or distributed by the city, whether such pipes and fixtures belong to the city or not, shall be done by a plumber or piper licensed, as hereinafter provided, by the Board of Aldermen.

SECT. 2. Licenses for the purpose named in Section 1 may be granted for the term of one year to any plumber or piper, or firm of plumbers or pipers, or firms employing plumbers or pipers, upon the payment of a license fee of one dollar (\$1). Every person or firm so licensed shall give bonds to the city in the sum of three hundred dollars (\$300), with sureties, to be approved by the Board of Aldermen, conditioned to perform all work in a skilful and workmanlike manner, to observe all rules and regulations now made or hereafter made by the Water Board, and to save the city harmless from all claims and damages resulting from imperfect or unskilful work, or negligence by them, their agents, or servants.

SECT. 3. The Water Board is hereby authorized to make such rules and regulations as to it shall seem fit, respecting plumbers and pipers and plumbing and piping work, in connection with water pipes and fixtures; *provided* that such rules and regulations are submitted to and approved by the Board of Aldermen.

SECT. 4. No person shall perform any labor in the nature of plumbing or piping upon or in connection with any water pipes

or fixtures through which or by means of which water is furnished or distributed by the city of Lowell, whether such pipes or fixtures are owned by the city or not, except under the authority of the license hereinbefore named, on pain of forfeiting a sum of not less than five dollars (\$5), nor more than twenty dollars (\$20), for each offense.

SECT. 5. No person shall remove or interfere with any water meter, unless especially authorized so to do by the Water Board, on pain of forfeiting a sum not less than five dollars (\$5,) nor more than twenty dollars (\$20), for each offense.

SECT. 6. This act shall take effect from and after its passage.

In Common Council, July 14, 1885.

Passed to be ordained.

ALFRED M. CHADWICK, President.

In Board of Aldermen, July 21, 1885.

Passed to be ordained.

JOHN F. PHILLIPS, Chairman.

Approved July 22, 1885.

EDWARD J. NOYES, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-five.

AN ORDINANCE CHANGING THE TITLE OF AN OFFICER OF THE
CITY.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That wherever the words "City Marshal" appear in the Revised Ordinances of the City of Lowell, the same be stricken out, and the words "Chief of Police" inserted in place thereof.

In Common Council, Dec. 31, 1885.

Passed to be ordained.

ALFRED M. CHADWICK, President.

In Board of Aldermen, Dec. 31, 1885.

Passed to be ordained.

JOHN F. PHILLIPS, Chairman.

Approved Dec. 31, 1885.

EDWARD J. NOYES, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-six.

AN ORDINANCE TO AMEND CHAPTER FOURTEEN OF THE REVISED
ORDINANCES OF 1883.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Sect. 2 of Chap. 14 of the Revised Ordinances of 1883 be amended as follows :

By striking out the word "and" at the beginning of the second line and inserting in place thereof the word "the."

By inserting after the word "council" in the same line, the words "and Superintendent of Public Schools."

By striking out the words "one from each ward" in the third line and by striking out all after the word "years" in the eleventh line.

That Sect. 4 be amended by striking out all after the word "chosen" in the first line, and inserting the following : "In the month of December, 1886, and whenever a vacancy occurs, by a vote of the Board of Directors, a Librarian of the City Library, who shall hold his office until removed for cause."

That Sect. 5 be amended by inserting after the word "said" at the beginning of the eighth line, the words "library and"

In Common Council, March 23, 1886.

Passed to be ordained.

WALTER M. SAWYER, President.

In Board of Aldermen, March 30, 1886.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved March 31, 1886.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-six.

AN ORDINANCE FOR THE REGULATION OF PLUMBING.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. No person shall carry on the business of plumbing unless he shall have first registered his name and place of business in the office of the City Engineer, and notice of any change in the place of business of a registered plumber shall be immediately given to said City Engineer.

SECT. 2. Every plumber, before doing any work in a building, shall, except in the case of repairs or leaks, file at the office of the City Engineer, upon blanks to be provided by the Board of Health for the purpose, a notice of the work to be performed. No person shall commence work on such drainage, or plumbing, until the plans are approved by the Board of Health. Plans and specifications shall be approved or rejected within five days of the time of filing.

SECT. 3. The Board of Health must be notified when any work is ready for inspection, and all work must be left uncovered and convenient for examination until inspected and approved.

SECT. 4. Every building shall be separately and independently connected with the common sewer, or cesspool, said cesspool to be approved by the Board of Health.

SECT. 5. Drains and soil-pipes, through which water and sewage is used and carried, shall be of iron, or Akron, or cement drain-pipe, to be approved by the Board of Health when within a building. They shall be supplied with a suitable trap placed

with an accessible clean-out, either outside or inside the foundation wall of the building. There shall be a fresh air inlet pipe entering the soil-pipe or drain on the house side of the main trap of not less than four inches internal diameter. All soil-pipes shall be carried out through the roof, open and undiminished in size, in such height as may be directed by the Board of Health, but no soil-pipe shall be carried to a height less than two feet above the roof.

SECT. 6. Every sink, basin, bath-tub, water-closet, slop-hopper, and each set of trays, and every fixture having a waste-pipe, shall be furnished with a trap, which shall be placed as near as practicable to the fixture that it serves. Traps shall be protected from siphonage, or air pressure by special air-pipes of a size not less than the waste-pipe; but air-pipes from water-closet traps shall be of not less size than two-inch bore for thirty feet or less, and not less than three-inch bore for more than thirty feet, and shall be run as direct as practicable.

SECT. 7. Drip or overflow pipes from safes under water-closets and other fixtures, or from tanks or cisterns, shall be run to some place in open sight, and in no case shall any such pipe be connected directly with a drain waste-pipe or soil-pipe. Water-pipe from refrigerators, or other receptacles in which provisions are stored, shall not be connected with a drain soil-pipe or other waste-pipe.

SECT. 8. Every water-closet, or line of water-closets on the same floor, shall be supplied with water from a tank or cistern, and the flushing-pipe shall not be less than one inch in diameter; *provided*, that where it is impracticable by reason of frost, the Board of Health may give a written permission for other service.

SECT. 9. The provisions of Sections 3 to 9 inclusive of this

ordinance shall apply only to buildings erected, or to work performed after its passage.

In Common Council, April 27, 1886.

Passed to be ordained.

WALTER M. SAWYER, President.

In Board of Aldermen, May 18, 1886.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved May 20, 1886.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-seven.

AN ORDINANCE AMENDING SECTION ONE, CHAPTER TWENTY, OF
THE ORDINANCES RELATING TO ELECTION OF CHIEF ENGINEER
OF FIRE DEPARTMENT.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Chap. 20, Sect. 1, of the City Ordinances be, and the same hereby is, amended as follows, viz.: By inserting between the word "require" in the fifth line of said section, and the word "and" in the sixth line, the following words :

"The Chief Engineer shall be appointed by the Mayor and Aldermen in the month of March or April, and whenever a vacancy occurs, and he shall enter upon the discharge of the duties of said office on the first day of May of the year in which appointed, if appointed for a full term, prior to May of any year, and he shall hold said office for the term of three years, from said first day of May, or until he is removed, and if appointed after the first day of May of any year, he shall enter upon the discharge of the duties of said office forthwith, and shall continue therein until the expiration of the full term as existing at the time of his said appointment, or until removed."

And by inserting the word "assistant" between the word "said" and the word "engineers" in the sixth line of said section.

And by inserting between the words "member" and "no" in the sixteenth line of said section, the following words, viz.:

“Except that the Chief Engineer shall not be removed without a hearing and cause shown thereat.”

In Common Council, Oct. 11, 1887.

Passed to be ordained.

JAMES H. CARMICHAEL, President.

In Board of Aldermen, Nov. 8, 1887.

Passed to be ordained.

STEPHEN B. PUFFER, Chairman.

Approved Nov. 11, 1887.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-seven.

AN ORDINANCE TO AMEND CHAPTER NINE OF THE REVISED
ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Section 1, Chap. 9, of the Revised Ordinances be, and the same is, hereby amended, by striking out the "word" "February" and inserting instead thereof the word "April."

In Common Council, Nov. 14, 1887.

Passed to be ordained.

JAMES H. CARMICHAEL, President.

In Board of Aldermen, Nov. 21, 1887.

Passed to be ordained.

STEPHEN B. PUFFER, Chairman.

Approved.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-seven.

AN ORDINANCE AMENDING THE ORDINANCES OF THE CITY OF
LOWELL, AND DEFINING AND LIMITING THE POWERS OF
STANDING COMMITTEES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. All standing committees of the City Council, or of either branch thereof, shall act only in committee meeting, duly assembled, and no business other than to adjourn shall be transacted at any committee meeting, unless a majority of the committee shall be actually present.

SECT. 2. As speedily as possible after their appointment, each committee shall organize by the choice of one of their number as secretary, whose duty it shall be to keep a true and accurate record of the doings of his committee in a record book, to be kept for that purpose ; which book, at the expiration of the year, shall be by the secretary deposited either with the city clerk, or the chief executive officer of the department to which the record relates, to be by said city clerk, or said chief executive officer, turned over to the newly appointed committee.

The city solicitor shall keep a docket, giving the names of the parties who have brought actions against the city, or against whom the city has any action pending. He shall also keep another record of cases properly indexed ; the name and residence of each witness to be written in said record, and the substance of what said witness will testify to, shall also be inscribed in said book ; and, if possible, the same shall be signed by the witness. The docket, record-book, and all briefs shall at the expiration of the city solicitor's term of office, be handed to his successor, and shall be the property of the City of Lowell.

SECT. 3. It shall in general be the duty of each of the standing committees to exercise a close supervision over all matters of detail, relating to their respective departments, coming before them in the regular course; to inform themselves as nearly as may be, and at as early a date after their appointment as possible, as to the amount of appropriation required to properly manage the affairs of their respective departments for the ensuing year, and to cause the same to be reported by written statement, which shall be itemized as closely as practicable to the committee on appropriations, to be by said committee used as a basis from which to make up their annual appropriations, and to approve no bills to be paid from their respective appropriations, save only such as may relate to their respective departments, and have been duly contracted by them or by their authority.

SECT. 4. They may make contracts relating to their respective departments, and shall see to it that in all cases the provisions of Chapter Sixteen of the City Ordinances shall be strictly observed; *provided*, that they shall not by contract incur debts amounting in the aggregate to a larger sum than the unexpended amount of their appropriation for the current year; nor shall any such committee, except the joint standing committee on streets and the standing committee on sewers, make, or authorize the making of, any contracts involving the creation of a debt against the city exceeding two thousand dollars in amount, or if a continuing contract, one which shall extend beyond the municipal year for which said committee may have been appointed, unless they shall have been expressly authorized so to do by resolution, order, or vote of the main body of the council, from which said committee shall have been appointed.

SECT. 5. The direction which, by the terms of Chapter Thirty-five, City Ordinances, the committee on streets is authorized to exercise over the superintendent of streets in the constructing, maintaining, repairing and caring for public streets, ways and bridges, and the making of contracts for labor and materi-

als required therein, and in the building of sidewalks, shall be extended as far as to vest in said committee, exclusive of the said superintendent, all matters of detail regarding the purchase of supplies and materials to be used in the building, maintaining, repairing, and taking care of either streets, bridges, or sidewalks, and the purchase, keeping, or caring for any and all property belonging to, or employed in, said department; and said superintendent shall submit to said committee for their approval any contemplated purchase of supplies, material or property of any kind for said department, the cost of which shall exceed one hundred dollars, and such contract of purchase shall not become binding on the city until duly approved by said committee.

SECT. 6. Said committee on streets shall determine as to the order in which work on the different streets, ways, and sidewalks, whether in constructing or repairing the same, shall be done; when work shall be begun and when stopped; *provided*, that no work of new construction of either streets, bridges, or sidewalks shall be undertaken unless there shall be an unexpended balance to the credit of the appropriation of the department, or unless specially authorized by express vote of the City Council.

SECT. 7. Said committee shall determine as to the number of laborers to be employed in said department, and may, if in their judgment the interest of the department requires it, create or discontinue positions of authority in the department subordinate to that of superintendent; but the direction which the committee shall exercise over the working of the department shall not extend so far as to permit said committee, or any member thereof, directly or personally, to employ or discharge any officer or workman employed therein.

SECT. 8. It shall be the duty of this committee to see to it, by suitable directions given to the said superintendent, that in addition to other ordinary repairs of streets, all sidewalks on public ways, adjoining property of the city including the side-

walks on such bridges as are public ways, shall be kept clear from ice and snow, and in a reasonably safe and convenient condition for travelling thereon; and the bills incurred in this work shall be paid from the appropriation of the street department.

SECT. 9. Annually, prior to the making of the annual appropriations, said committee shall consider the rate of wages paid to the different grades of employes in the street department, with the view of ascertaining whether the same is just and reasonable, or otherwise; and if, in the judgment of said committee, said rate should be in any particular altered, they shall report thereon, with their recommendations, to the City Council, and said committee may so consider and report on said subject at any other time during the year.

SECT. 10. In ascertaining the powers which the committee on sewers shall exercise in the constructing, maintaining, and repairing of main drains and common sewers, or in contracting for labor or materials to be used therein, the same rule shall be, in all respects, applied as has been hereinbefore laid down with respect to the committee on streets, except that the report to be made annually concerning the rate of wages to be paid to employes on the sewer department, shall be made to the Board of Aldermen instead of to the City Council.

SECT. 11. All contracts for the furnishing of supplies or materials, or for the purchase of any property by the city for use in the police department, to an amount exceeding one hundred dollars, shall be made only by the authority of the committee on police.

SECT. 12. The employing and fixing the pay of whatever help or assistance of a permanent nature may be required in the custody or control of prisoners, the care of the station-house, or the property belonging to the city and used in connection with the police department, other than that afforded by the regular members of the police force, including the police matron, shall be in said committee on police.

SECT. 13. All nominations of persons to serve as police officers and watchmen, whether designated as regular officers, special officers, or supernumeraries, shall, before action thereon by the Board of Aldermen, be referred to the committee on police, to be by them reported back to the Board of Aldermen, with their recommendations, at or before the next regular meeting of said board.

SECT. 14. All petitions for the appointment or removal of police officers or watchmen, whether referring to regular, special, or supernumerary officers, and all charges or matters coming before the Board of Aldermen and specially relating to the members of the police department, or any of them, shall, before any action thereon is taken by the board, be referred to the committee on police, unless such may have already been considered reported by said committee.

SECT. 15. No member of the police force shall be fined or suspended from duty for any indefinite period, except with the approval (to be indicated by their vote) of said committee on police; *provided*, that the chief of police may, for cause sufficient in his judgment, suspend any police officer until such time as he may cause the said committee to be convened to investigate as to the propriety of such suspension.

SECT. 16. The committee on lands and buildings shall have in general charge the construction and all repairs and the making of all contracts relating to labor and material used in the construction and repairing of all buildings belonging to the city, to whatever department's use said buildings may be especially designed or designated, save only such construction or repairing as the City Council may, by resolution, order, or vote, especially authorize to be let out by contract; or such work in the nature of minor repairs as may be done by persons regularly employed in the department, to whose use such buildings are especially designated.

SECT. 17. Whenever such work, whether in the way of construction of new, or repairs in old buildings, shall be so done

under the general charge of said committee on lands and buildings, all bills contracted in the same, whether for labor, or materials, or both, shall be paid, from said committee's appropriation; *provided*, that by express agreement between said committee and the committee having in charge the department specially benefited by said work, the whole or any part of said bills may be charged to the appropriation of said last-named committee; in which case, bills so charged shall be approved before payment, by both of said committees.

SECT. 18. In ascertaining the powers which the committee on lands and buildings shall exercise in such work of construction or repairs as may be undertaken by them, or in contracting for labor or materials to be used therein, the same rule shall be in all respects applied as has been hereinbefore laid down with respect to the committee on streets.

SECT. 19. All contracts for the furnishing of supplies or materials, or for the purchase or keeping of any property by the city for use in the fire department, to an amount exceeding one hundred dollars, shall be made only by authority of the committee on fire department.

SECT. 20. All contracts of or concerning any of the city printing or advertising, save only such as are by law made subject to the Board of Aldermen exclusively, to whatever department of the city said printing or advertising especially relates, shall be made only under the authority of the committee on printing, and shall be paid for from said committee's appropriation.

[This section shall go into effect on the first Monday of January, 1888.]

SECT. 21. No member of either branch of the City Council shall be eligible to the office of overseer of the poor.

[This section shall take effect on the first Monday of January, 1888.]

SECT. 22. Revised Ordinances, Chap. 1, Sect. 13, is hereby amended as follows, viz.: By striking out the word "November"

in the second line, and substituting in place thereof the following words, viz.: "December, and after the annual municipal election shall have been held;" and by inserting between the word "established" and the word "and" in the fifth line, the following words, viz.: "Provided, that in case any new office shall be created, the salary of said newly created office may be fixed at any time."

SECT. 23. No owner, driver, or other person having the care or ordering of a vehicle upon Prescott street, or that part of Merrimack street between John street and Bridge street, or that part of Central street between Merrimack street and Market street, at any time between the hours of eight A. M. and nine P. M., shall suffer the same to stop for more than five minutes without some proper person to take care of the same, nor for more than ten minutes in any case; but the foregoing provisions shall not apply to carriages of physicians while engaged in their business.

SECT. 24. No owner, driver, or other person having the care or ordering of a vehicle upon any public street or way in the city, shall stop or place it at or near the intersection of two or more streets in such a manner as to cross a footway, a flagstone, or to prevent foot passengers from passing along a street in the direction or line of the footway or flag-stone thereon.

SECT. 25. Every driver of a vehicle upon any public street in the city shall remain near it while it is unemployed or standing, unless he is necessarily absent in the course of his duty and business, and he shall so keep his horse or horses and vehicle as not to obstruct the streets.

SECT. 26. No owner, driver, or other person having the care or ordering of a vehicle, shall hitch or fasten the horse or horses attached thereto, to any street lamp-post upon any of the public ways of the city.

SECT. 27. Any person who shall offend against any of the pro-

visions of the foregoing sections, from twenty-three to twenty-six, both inclusive, shall be punished for each offense by a fine not exceeding twenty dollars.

In Board of Aldermen, Dec. 30, 1887.

Passed to be ordained.

STEPHEN B. PUFFER, Chairman.

In Common Council, Dec. 30, 1887.

Passed to be ordained.

JAMES H. CARMICHAEL, President.

Approved.

JAMES C. ABBOTT, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE TO AMEND THE ORDINANCE, ENTITLED : AN
ORDINANCE AMENDING THE ORDINANCES OF THE CITY OF
LOWELL, AND DEFINING AND LIMITING THE POWERS OF
STANDING COMMITTEES.

Be it Ordained, by the City Council of the City of Lowell, as Follows :

That Sect. 2 of the Ordinance amending the Ordinances of the City of Lowell, and defining and limiting powers of standing committees, be, and the same hereby is, amended as follows : By inserting after the word "Committee" and before the word "shall," in the second line, the words "except the joint standing committee on streets and the standing committee on sewers."

In Common Council, Feb. 14, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Feb. 14, 1888.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Feb. 15, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE RESTRICTING THE DISTRIBUTION OF HAND BILLS,
CIRCULARS, PROGRAMMES, AND ADVERTISING SLIPS.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That no person shall cause to be distributed any hand bill, circular, programme, or advertising slip in or upon any street or sidewalk in the city, excepting that such hand bill, circular, programme, or advertising slip may be placed within the doors, of stores, offices and business houses, and at the doors of residences.

Any person who shall offend against any of the provisions of this ordinance shall be punished for each offence by a fine not exceeding twenty dollars.

In Common Council, July 17, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Aug. 3, 1888.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Aug. 3, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE TO AMEND SECTION EIGHT OF CHAPTER TWENTY
OF THE REVISED ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. That Sect. 8 of Chap. 20 of the Revised Ordinances of the City of Lowell be, and the same is hereby amended by inserting in the first line thereof, after the word "engineer," and before the word "to," the words "who may appoint some members of the Fire Department to assist him in such duty."

In Common Council, Aug, 16, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Aug. 21, 1888

Passed to be ordained.

A. M. CHADWICK, Chairmar..

Approved Aug. 21, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE PROHIBITING THE THROWING OF FRUIT, VEGETABLES, ETC., ON SIDEWALKS OR CROSSWALKS.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. Any person who shall cast, throw, place or deposit on any sidewalk or crosswalk in any street, evenue, or public place within the corporate limits of the City of Lowell, any part or portion of any fruit or vegetable or other substance, which, when stepped upon by any person, is liable to cause, or does cause, such person to slip or fall, shall be punished by a fine not exceeding twenty dollars.

SECT. 2. The proprietor of every store or other place where fruit, vegetables, or other substances mentioned in the preceeding section of this ordinance are sold, or kept for sale, shall keep suspended therein or posted thereon in some conspicuous place, constantly, a copy of sections one and two of this ordinance, printed in large type, so that persons purchasing any such fruit, vegetable, or other substances may become aware of their provisions, and every proprietor refusing or neglecting to comply with the provisions of this section shall be fined not exceeding twenty dollars.

In Common Council, Aug. 16, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Aug. 21, 1888

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Aug. 21, 1888.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE TO AUTHORIZE THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY OF MASSACHUSETTS, ITS SUCCESSORS AND ASSIGNS, TO LAY AND MAINTAIN UNDERGROUND CONDUITS, CABLES, WIRES, AND MANHOLES, AND TO ERECT AND MAINTAIN DISTRIBUTING POLES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. The New England Telephone and Telegraph Company of Massachusetts, its successors and assigns, are hereby authorized to construct and maintain underground conduits, cables and wires for the conduct of its business in the following streets: Middle street, Market street, Central street, from Merrimack to Tower's corner, and Middlesex street, from Towers corner to Thorndike street, to construct therein and maintain the necessary manholes and house connections; also to erect and maintain distributing poles at the termini of such said conduits, and at suitable distributing points; all work to be done in accordance with the regulations hereinafter provided.

SECT. 2. The said company shall lay conduits in any other street or streets which may be hereafter designated by the Board of Aldermen, and in which street or streets said company maintains or wishes to maintain electric cables or lines of wire, to the number of 100 or more conductors, and within which said streets the Board of Aldermen may deem it for the interest of the city to have said wires placed underground, and within such reasonable time in each case as the Board of Aldermen shall determine.

Wires to the number of 50 or more in any street shall be placed in aerial cable, if so ordered by the Board of Aldermen

SECT. 3. The said conduits shall be of suitable kind and

construction, such as are in successful operation for similar purpose in other cities, and the work shall be done in a thorough manner, and to the approval of the Board of Aldermen, or any officer of the city whom the Board may select. The said distributing and other poles shall be of such height and other dimensions, and of such form and material, as shall be satisfactory to the Board of Aldermen, and shall be subject to their approval or the approval of any person or persons whom the Board of Aldermen may select.

SECT. 4. The surface of a street shall not be disturbed for the purpose of laying, repairing, or removing wires or conduits, or erecting or removing distributing or other poles, without a permit from the Board of Aldermen indicating the time, manner, and place of opening such street, and the time within which such work shall be completed.

But this provision shall not be construed as requiring any permit for the opening of manholes for the purpose of drawing in, removing, or repairing wires and cables.

SECT. 5. When an opening is made in a street for any of the purposes aforesaid, the portion of the street so opened shall be restored to a condition satisfactory to the City Engineer and Surveyor of Highways, and shall be kept in such condition for one year thereafter, and if not so restored and maintained by said company said Surveyors of Highways may cause the same to be done at the expense of said company.

SECT. 6. The said company, in laying, repairing, or removing its wires or conduits, shall not disturb or in any way interfere with any gas or water pipes, or sewers, or pipes therewith connected.

SECT. 7. In case the City of Lowell hereafter finds it necessary to construct or enlarge sewers or other public works in streets where conduits are laid, which shall require the removal or changing the location of said conduit, said removing or changing shall be at the expense of said company.

SECT. 8. The said company shall commence the work contemplated herein within six months from the passage of this ordinance, unless restrained by process of law, and shall continue the said work with reasonable diligence until suitable conduits have been laid in such of the above named streets as said parties may elect, or the Board of Aldermen may require under the provisions of Section 2.

SECT. 9. The said company shall not remove its conduits unless permitted to do so by the Board of Aldermen.

SECT. 10. The said company shall remove its conduits to other suitable locations whenever ordered to do so by the Board of Aldermen.

SECT. 11. No permit shall be granted, or, if granted, shall be valid, to disturb the surface of a street for any of the purposes aforesaid until said company has executed an agreement in a form satisfactory to the City Solicitor, providing,

First: That in every underground conduit constructed by the company sufficient and necessary space shall be reserved, free of expense, for the use of the fire, police, and other signal wires belonging to the city, and used exclusively for municipal purposes, and that the fire and police department, by their electrical superintendent, shall be allowed access to said conduits at all times, and that said department shall be allowed facilities and privileges in putting in or taking out wires equal in all respects to those of the said Telephone and Telegraph Company.

Second: That said company will indemnify and save the city harmless against all damages, costs, and expense whatsoever to which the city may be subjected in consequence of the acts or neglects of said company, its agents, or servants, or in any manner arising from the rights and privileges granted it by the city.

Third: In addition to the aforesaid agreement, said company shall, before a street is disturbed for the laying of its wires or conduits, execute a bond, with surety or sureties in

a penal sum of not less than \$10,000, conditioned to fulfil all its said agreements with the city and its duties under this ordinance, and a new bond of like import may at any time be required of said company by the City Council, which new bond shall be a strengthening bond, unless the surety or sureties on former bonds are expressly released from further liability by vote of the City Council.

In Common Council, Dec. 31, 1888.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Jan. 4, 1889.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Jan. 4, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-eight.

AN ORDINANCE AMENDING CHAPTER THIRTY-NINE OF THE
REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

SECTION I. Sect. I of Chap. 39 of the City Ordinances is hereby amended so as to read as follows:

SECTION I. The members of the Lowell Water Board shall be five in number, and shall be chosen in the manner following: In the month of January or February next, there shall be chosen by concurrent vote of both branches of the City Council three citizens of Lowell, neither of whom shall hold any other municipal office, to be members of said Water Board, one of whom shall hold office for four years and one for three years from the second Monday of March next following their election; and one to hold office from the first Monday of May next following his election until the second Monday in March in the year 1891, or until their successors are chosen.

In the month of January or February in the year 1890 there shall be chosen by concurrent vote of both branches of the City Council, one citizen of Lowell, who shall hold no other municipal office, to be a member of said Water Board, to serve from the first Monday of May next following his election until the second Monday of March in the year 1894, or until his successor is chosen; and in the month of January or February in the year 1891, and annually thereafter, there shall be chosen, in the manner above provided, one citizen of Lowell, who shall hold no other municipal office, to be a member of said Water Board, to serve for the term of four years from the Second Monday of March next following his election, or until his successor is chosen. In the month of January next, and

annually thereafter in said month, there shall be chosen by concurrent vote of both branches of the City Council, one member of the Board of Aldermen to be a member of said Water Board, and who shall enter upon his duties as member of said Board forthwith, and hold office during the remainder of the municipal year in which he is elected, or until his successor is elected.

The members elected to said Board from the Board of Aldermen and the citizens at large, shall at all times be subject to removal by the City Council. The acceptance of any other municipal office by a member of said Board shall be deemed to constitute a vacancy in said Board. Vacancies for any cause may be filled at any time by the City Council.

SECT. 2. Sect. 2 of the said Chap. 39 is hereby amended so as to read as follows :

SECT. 2. On the second Monday of March, in the year 1889, the members of the said Water Board shall meet and organize by choosing one of their number, elected from the citizens, to be president of the Water Board, whose term of office shall be from the first Monday of May in said year until the second Monday of March, 1890, or until his successor is chosen.

And on the second Monday of March, 1890, and annually thereafter, the members of said Water Board shall meet and organize by choosing one of their number, elected from the citizens, to be president of the Board, who shall hold his office for one year from the time of his election, or until his successor is chosen. He shall receive such compensation for his services as president as the City Council may from time to time determine. They shall, in the month of March, annually, choose a superintendent of Water Works, who shall hold his office from April first in the year of his election, until another is elected in his place, unless sooner removed. He shall receive such compensation as superintendent as the City Council may from time to time determine. They shall, in the month of

June, annually, choose a clerk, who shall also be secretary of the Board, and who shall hold his office for one year, or until his successor is chosen. The superintendent and clerk may for cause be removed at any time by the Board. Neither the superintendent nor the clerk shall be members of the Water Board. Said Board may also make such rules and regulations for their own government and for the government of all subordinate officers, by them appointed, as they may deem expedient, not inconsistent with the Statute Law or City Ordinances.

SECT. 3. This ordinance shall take effect upon its passage, and all ordinances, or parts of ordinances, inconsistent therewith are hereby repealed.

In Common Council, Jan. 4, 1889.

Passed to be ordained.

E. B. CONANT, President.

In Board of Aldermen, Jan. 4, 1889.

Passed to be ordained.

A. M. CHADWICK, Chairman.

Approved Jan. 4, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-nine.

AN ORDINANCE AMENDING AN ORDINANCE AMENDING CHAPTER-
THIRTY-NINE OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That the ordinance amending Chap. 39 of the Revised Ordinances be, and the same hereby is, amended as follows: By striking out the word "next" in the twenty-eighth line and inserting in place thereof the words and figures "or February, 1889," and by striking out the word "month" in the twenty-ninth line and inserting the word "months" in place thereof.

In Common Council, Feb. 19, 1889.

Passed to be ordained.

THOMAS J. SPARKS, President *pro tem*.

In Board of Aldermen, Feb. 19, 1889.

Passed to be ordained.

R. M. BOUTWELL, Chairman.

Approved Feb. 19, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-nine.

AN ORDINANCE RELATING TO CHAPTER TWENTY, SECTION ONE,
OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION I. Sect. 1 of Chap. 20 of the City Ordinances is hereby ordained to read as follows :

SECTION I. The Fire Department shall consist of a Chief Engineer, four Assistant Engineers, and as many engine-men, hose-men, hook and ladder men, and other persons, to be divided into companies, as the number of engines and the other fire apparatus of the city shall from time to time require ; the Chief Engineer shall be appointed by the Mayor and Aldermen, in the month of March or April, and whenever a vacancy occurs, and he shall enter upon the discharge of the duties of said office on the first day of May of the year in which appointed, if appointed for a full term prior to May of any year and he shall hold said office for the term of three years from said first day of May, or until he is removed ; and if appointed after the first day of May of any year he shall enter upon the discharge of the duties of said office forthwith, and shall continue therein until the expiration of the full term as existing at the time of his said appointment, or until removed ; and the appointment of said Assistant Engineers shall be made by the Mayor and Aldermen in the month of March or April, annually, and whenever a vacancy occurs ; and they shall hold their respective offices for the term of one year from the first day of May succeeding their appointment, or until others are chosen ; all other members of the Fire Department shall be nominated by the Board of Engineers, and their names sent to

the Mayor and Aldermen, and when by them appointed they shall be members of the Fire Department; *provided*, that vacancies may be filled at any time, and that the Mayor and Aldermen may at any time remove any or all of said officers or members; except that the Chief Engineer shall not be removed without a hearing and cause shown thereat. No person shall be appointed a member of the Fire Department who does not sustain a good moral character, and who is not a citizen of the City of Lowell.

SECT. 2. This ordinance shall take effect upon its passage, and Sect. 1 of Chap. 20 of the City Ordinances, together with each and every amendment thereto, is hereby repealed.

In Common Council, June 11, 1889.

Passed to be ordained.

WILLIAM E. WESTALL, President.

In Board of Aldermen, June 14, 1889.

Passed to be ordained.

JOHN H. FULLER, Chairman, *pro tem*.

Approved June 22, 1889.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Eighty-nine.

AN ORDINANCE AMENDING CHAPTER ONE OF THE REVISED
ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Sect. 6 of Chap. 1 of the Revised Ordinances be, and the same is, hereby amended by striking out after the word "and" in the eleventh line the words "one member of the Lowell Water Board elected from the Common Council," and inserting instead thereof the words "the Joint Standing Committee on Commons."

In Common Council, Jan. 3, 1890.

Passed to be ordained.

THOMAS J. SPARKS, President, *pro tem*.

In Board of Aldermen, Jan. 3, 1890.

Passed to be ordained.

R. M. BOUTWELL, Chairman.

Approved Jan. 3, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety.

AN ORDINANCE AMENDING CHAPTER FIVE OF THE ORDINANCES
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Sect. 12 of Chap. 5 of the Ordinances of the City of Lowell be, and the same hereby is, amended as follows, to wit: By inserting after the word "Street," and before the word "provided," in the eleventh line of said section, the words "nor on either side of Bridge street north of Merrimack river, south of Seventh or West Sixth streets for a distance of seventy-five feet back from either line of said Bridge street."

In Common Council, Jan. 3, 1890.

Passed to be ordained.

THOMAS J. SPARKS, President *pro tem*.

In Board of Aldermen, Jan. 3, 1890.

Passed to be ordained.

R. M. BOUTWELL, Chairman.

Approved Jan. 3, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety.

AN ORDINANCE PROVIDING FOR THE ELECTION OF ASSESSORS AND
THE APPOINTMENT OF ASSISTANT ASSESSORS.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. There shall be chosen by concurrent vote of both branches of the City Council, in the month of April, May, or June of the current year, three Assessors, one to serve for a term beginning with the date of his election, and ending the first Monday of January, 1893, one to serve for a term beginning at the date of his election, and ending the first Monday in January, 1892, and one to serve for a term beginning at the date of his election, and ending the first Monday of January, 1891; and in the month of January or February, 1891, and in each succeeding year thereafter there shall be elected one Assessor, to serve for the term of three years from the first Monday in January of the year in which he is chosen. In case of a vacancy in the Board of Assessors from any cause, the City Council shall fill said vacancy by electing a member to serve for the remainder of the unexpired term.

SECT. 2. In the month of April, May, or June of the current year there shall be nominated by the Mayor, and confirmed by the Board of Aldermen, one Assistant Assessor from each ward (said Assistant Assessor to be a resident therein), to serve for the remainder of the current year, and in the month of January or February in the year 1891, and in every second year thereafter, there shall be nominated by the Mayor, and confirmed by the Board of Aldermen, one Assistant Assessor from each ward (said Assistant Assessor to be a resident therein), to serve for the term of two years from the first Monday in January of the year in which they are appointed. In

case of a vacancy occurring in the Board of Assistant Assessors, there shall be nominated by the Mayor, and confirmed by the Board of Aldermen, a member to serve for the remainder of the unexpired term. Said Assistant Assessors shall assist the Assessors in the assessment of taxes, and in any duties relating to said assessment, and shall at all times act under the direction and control of the Assessors.

Said Assessors and Assistant Assessors to be sworn to a faithful performance of their duties.

Said Assessors shall be removable at the pleasure of the City Council, and said Assistant Assessors at the pleasure of the Board of Aldermen.

SECT. 3. Section 1 of Chapter 3 of the charter and ordinances, and all ordinances and parts of ordinances inconsistent with this ordinance, are hereby repealed.

In Common Council, April 22, 1890.

Passed to be ordained.

ALONZO G. WALSH, President.

In Board of Aldermen, April 29, 1890.

Passed to be ordained.

JOHN H. FULLER, Chairman.

Approved May 1, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety.

AN ORDINANCE AMENDING CHAPTER THIRTY-THREE OF THE
ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as Follows :

That Section 15 of Chapter 33 of the Ordinances of the City of Lowell be, and the same hereby is, amended by striking out the words "Board of Aldermen" wherever they occur and inserting instead thereof the words "Superintendent of Streets."

In Common Council, May 20, 1890.

Passed to be ordained.

ALONZO G. WALSH, President.

In Board of Aldermen, May 27, 1890.

Passed to be ordained.

JOHN H. FULLER, Chairman.

Approved June 2, 1890.

CHARLES D. PALMER, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-one.

AN ORDINANCE EXTENDING THE LIMITS OF THE FIRE DISTRICT
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That the limits of the Fire district of the City of Lowell be, and the same are hereby extended, as follows: Beginning at the junction of the middle line of Appleton street with the middle line of South street, thence southerly along the middle line of South street to the middle line of Summer street, thence easterly along the middle of Summer and Charles streets to the middle line of Central street, then northerly along the middle line of Central street to Appleton Street, thence westerly along the middle line of Appleton street to the point of beginning.

In Common Council, May 12, 1891.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, May 19, 1891.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved June 8, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-one.

AN ORDINANCE REPEALING SECTION SIX OF CHAPTER NINE OF
THE REVISED ORDINANCES OF 1883.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Section 6 of Chapter 9 of the Revised Ordinances of 1883, be, and the same hereby is repealed.

In Common Council, May 12, 1891.

Passed to be ordained,

THOMAS J. SPARKS, President.

In Board of Aldermen, May 19, 1891.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved June 8, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-one.

AN ORDINANCE AMENDING CHAPTER FIVE, OF THE ORDINANCES
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Section 12, of Chapter 5, of the Ordinances of the City of Lowell as amended by an ordinance passed to be ordained and approved January 3, 1890, is further amended by inserting after the words "Bridge street," and before the word "provided" in said ordinance as amended, the following words "nor of any of the territory enclosed by the following boundary lines," to wit : "Beginning at the junction of the middle line of Hanover street with the middle line of Merrimack street, thence southerly along the middle line of Hanover and Lewis streets to the middle line of Broadway street, thence westerly along the middle line of Broadway street to the middle line of Suffolk street, thence northerly along the middle line of Suffolk street, to the middle line of Merrimack street, thence easterly along the middle line of Merrimack street to the point of beginning."

In Common Council, Nov. 10, 1891.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, Nov. 17, 1891.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

Approved Nov. 18, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-one.

AN ORDINANCE AMENDING SECTION TWELVE OF CHAPTER FIVE
OF THE ORDINANCES OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Section Twelve of Chapter Five of the Ordinances of the City of Lowell, be, and the same is hereby amended by inserting after the word "beginning" and before the word "provided" the words "nor on either side of Westford street from the westerly line of Grand street to the easterly line of Royal street, for a distance of fifty feet back from either line of Westford street."

In Board of Aldermen, Dec. 10, 1891.

Passed to be ordained.

JEREMIAH CROWLEY, Chairman.

In Common Council, Dec. 10, 1891.

Passed to be ordained.

THOMAS J. SPARKS, President.

Approved Dec. 11, 1891.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two.

AN ORDINANCE RELATING TO CHAPTER TWENTY-EIGHT, SECTION
ONE OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

Section One of Chapter Twenty-eight of the Revised Ordinances of the City of Lowell, is hereby ordained to read as follows:

SECTION I. In the month of February, or March of the year Eighteen Hundred and Ninety-two and in every third year thereafter, there shall be chosen by concurrent vote of both branches of the City Council a Chief of Police, who shall hold his office for the term of three years from the first Monday of January following his election or until his successor is chosen or he is removed for cause by the City Council by concurrent vote: And should a vacancy occur from any cause in said office during said term a successor shall be elected in like manner as above provided, who shall hold his office for the remainder of the unexpired term.

This Ordinance shall take effect upon its passage and Section One of Chapter Twenty-eight of the Revised Ordinances of the City of Lowell, is hereby repealed.

In Common Council, Feb. 9, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, Feb. 9, 1892.

Passed to be ordained.

A. A. HAGGETT, Chairman.

Approved Feb. 9, 1892.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two.

AN ORDINANCE AMENDING AN ORDINANCE, ENTITLED, "AN ORDINANCE AMENDING THE ORDINANCES OF THE CITY OF LOWELL AND DEFINING AND LIMITING THE POWERS OF STANDING COMMITTEES.

Be it Ordained, by the City Council of the City of Lowell, as follows :

SECTION 1. That Section twenty-three of an Ordinance entitled, "An Ordinance amending the Ordinances of the City of Lowell and defining and limiting the powers of Standing Committees," be, and the same is hereby amended by striking out the word "five," in the eighth line of said section and inserting instead thereof, the word "twenty," and by striking out the word "ten," in the tenth line of said section and inserting instead thereof the word "twenty."

In Common Council, May 17, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, May 24, 1892.

Passed to be ordained.

A. A. HAGGETT, Chairman.

Approved May 31, 1892.

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two.

AN ORDINANCE AMENDING SECTION TWENTY-ONE OF CHAPTER
THIRTY-NINE OF THE REVISED ORDINANCES.

Be it Ordained, by the City Council of the City of Lowell, as follows:

That Section Twenty-one of Chapter Thirty-nine of the Revised Ordinances be, and the same is hereby amended by adding to said section the following words ; "Provided that the Department of Commons shall be furnished with such water as is required therein, free of charge."

In Common Council, July 26, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, August 5, 1892.

Passed to be ordained.

A. A. HAGGETT, Chairman.

Approved.

LOWELL, September 17, 1892.

The above ordinance was presented to the Mayor, August 25, 1892, and not having been returned within ten days, the same is in force.

MICHAEL J. DOWD, City Clerk.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-two.

AN ORDINANCE AMENDING CHAPTER FIVE OF THE ORDINANCES
OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

That Section 12 of Chapter 5 of the Ordinances of the City of Lowell amended by an Ordinance approved January 3, 1890, be further amended by striking out the words "Seventh or West Sixth," in said amendment and inserting instead thereof the words "Fifth or West Fifth," so that the said amendment shall read as follows: "Nor on either side of Bridge Street north of Merrimack river, south of Fifth or West Fifth Streets for a distance of seventy-five feet back from either line of said Bridge Street."

In Common Council April 26, 1892.

Passed to be ordained.

THOMAS J. SPARKS, President.

In Board of Aldermen, April 29, 1892.

Passed to be ordained.

ALBERT A. HAGGETT, Chairman.

Approved May 2, 1892

GEORGE W. FIFIELD, Mayor.

CITY OF LOWELL.

In the Year Eighteen Hundred and Ninety-three.

AN ORDINANCE RELATING TO AND CONCERNING CONTRACTS FOR
PRINTING AND ADVERTISING OF THE CITY OF LOWELL.

Be it Ordained, by the City Council of the City of Lowell, as follows :

Unless ordered by the City Council or Board of Aldermen, all contracts for or concerning any of the city printing or advertising, shall be made by or under the direction of the Committee having in charge the department for which said printing or advertising is performed and payable from the appropriation made for the use of said department; provided however, that any printing or advertising required for any office or department for which no appropriation is made, shall be done under the direction and control of the Joint Standing Committee on Printing and be paid for from an Appropriation made for that purpose and under the control of said Committee.

Any ordinance or part of ordinance inconsistent herewith is hereby repealed.

In Common Council, March 14, 1893.

Passed to be ordained.

WILLIAM T. BENSON, President.

In Board of Aldermen, April 4, 1893.

Passed to be ordained.

WILLIAM E. WESTALL, Chairman.

Approved April 4, 1893.

JOHN J. PICKMAN, Mayor.

TABLE OF CONTENTS.

Joint Rules and Orders of the City Council.....	3
Rules and Orders of the Board of Aldermen.....	9
Rules and Orders of the Common Council.....	13
City Government for 1893.....	19
Joint Standing Committee of the City Council.....	22
Standing Committees of the Board of Aldermen.....	23
Standing Committees of the Common Council.....	24
City Officers, 1893.....	25
School Committee, 1893.....	41
Population of the City of Lowell.....	45
Population, Legal Voters, etc., by wards.....	46
Catalogue of the Government of the City of Lowell.....	47
Ordinances of the City of Lowell passed since 1883.....	79

SIXTY-SEVENTH
ANNUAL REPORT
OF THE
SCHOOL COMMITTEE

OF THE
CITY OF LOWELL, MASS.,

TOGETHER WITH THE
TWENTY-NINTH ANNUAL REPORT

OF THE
Superintendent of Public Schools,

REPORTS ON EVENING SCHOOLS. SCHOOL-HOUSES AND
HYGIENE, MANUAL TRAINING AND APPENDIX.

1892.



LOWELL, MASS.

DAILY COURIER PUBLISHING COMPANY.

1893.

CITY OF LOWELL.

OFFICE OF THE SCHOOL COMMITTEE,

LOWELL, MASS., December 31, 1892.

AT a meeting of the School Committee held December 28, 1892, it was unanimously voted that the Committee on Reports of the School Committee, other Standing Committees, and the Superintendent of Schools have leave to print their annual reports for the year 1892.

In accordance therewith the reports of Evening Schools, School-houses and Hygiene, and Manual Training, are hereby submitted.

A. K. WHITCOMB, *Secretary*.

ORGANIZATION

OF THE

SCHOOL COMMITTEE, 1892.

GEORGE W. FIFIELD, Chairman.

GEORGE M. HARRIGAN, Vice-Chairman.

ARTHUR K. WHITCOMB, Secretary.

GEORGE W. FIFIELD, Mayor	.	.	.	.	.	} <i>Ex-Officiis.</i>
THOMAS J. SPARKS, President of the Common Council	.	.	.	.	.
Ward 1—PATRICK KEYES, Jr.	.	.	.	.	.	Term expires 1892
LAWRENCE CUMMINGS	.	.	.	.	.	" " 1893
" 2—WILLIAM H. LATHROP	.	.	.	.	.	" " 1892
FREDERICK T. WALSH	.	.	.	.	.	" " 1893
" 3—EDWARD GALLAGHER	.	.	.	.	.	" " 1892
GEORGE M. HARRIGAN	.	.	.	.	.	" " 1893
" 4—RANSOM A. GREENE	.	.	.	.	.	" " 1892
FRED WOODIES	.	.	.	.	.	" " 1893
" 5—ANDREW G. SWAPP	.	.	.	.	.	" " 1892
WALTER COBURN	.	.	.	.	.	" " 1893
" 6—ALMON W. HILL	.	.	.	.	.	" " 1892
THOMAS P. BOULGER	.	.	.	.	.	" " 1893

STANDING COMMITTEES.

- ON ACCOUNTS — The Mayor, Messrs. Woodies, Harrigan, Walsh, Boulger.
- ON SCHOOL-HOUSES AND HYGIENE — Messrs. Cummings, Hill, Gallagher, Lathrop, Boulger.
- ON TEACHERS AND TRAINING SCHOOL — Messrs. Swapp, Greene, Harrigan, Coburn, Keyes.
- ON REPORTS AND PRINTING — Messrs. Lathrop, Greene, Gallagher, Walsh, Boulger.
- ON BOOKS AND SUPPLIES — Messrs. Harrigan, Woodies, Keyes, Hill, Boulger, Lathrop.
- ON SALARIES — The Mayor, Messrs. Cummings, Greene, Coburn, Walsh.
- ON PENMANSHIP AND DRAWING — Messrs. Woodies, Cummings, Hill, Gallagher, Walsh.
- ON MUSIC — Messrs. Keyes, Woodies, Greene, Harrigan, Boulger.
- ON EVENING SCHOOLS — Messrs. Greene, Cummings, Swapp, Hill, Keyes.
- ON RULES AND REGULATIONS — Messrs. Coburn, Keyes, Swapp, Cummings, Walsh.
- ON MILITARY INSTRUCTION — Messrs. Hill, Coburn, Gallagher, Harrigan, Lathrop.
- ON PRIVATE SCHOOLS — The Mayor, Messrs. Swapp, Gallagher, Lathrop, Walsh.
- ON SEWING — Messrs. Gallagher, Keyes, Harrigan, Coburn, Woodies.
-

ASSIGNMENT OF SCHOOLS.

- THE MAYOR — Reform School.
- MR. SPARKS — Reform, Middlesex Village, Ames Street.
- MR. KEYES — High, Reform, Worthen Street, Cheever Street.
- MR. CUMMINGS — High, Green, Morrill.
- MR. LATHROP — Varum, Fourth Street.
- MR. WALSH — Kirk Street, West Sixth Street, Tenth Street, Lakeview Avenue.
- MR. GALLAGHER — London Street, Weed Street, Cottage Street, Chapel Street.
- MR. HARRIGAN — High, Butler, Agawam Street, Lyon Street.
- MR. GREENE — High, Edson, Eliot, Dover Street, Powell Street.

MR. WOODIES — Highland, Franklin, Howard Street, Grand Street.

MR. SWAPP — High, Bartlett, Cabot Street, School Street.

MR. COBURN — High, Pawtucket, Mammoth Road, Cross Street, Plain Street, Varnum Avenue.

MR. HILL — High, Moody, Charles Street, Central Street.

MR. BOULGER — High, Pond Street, High Street, Carter Street, Fayette Street, Sycamore Street.

HIGH SCHOOL — Messrs. Coburn, Keyes, Cummings, Harrigan, Greene, Swapp, Hill, Boulger.

A. K. WHITCOMB, Superintendent of Public Schools.

Office in City Government Building.

OFFICE HOURS. — One hour after the forenoon session of the schools, and from 2 to 3 o'clock Saturday afternoons.

JOHN A. SMITH, Supervisor of Evening Schools.

TRUANT COMMISSIONERS.

BICKFORD LANG. JAMES KELLY. JOHN F. WILLIAMS.

Office in City Government Building.

ORGANIZATION

OF THE

SCHOOL COMMITTEE, 1893.

JOHN J. PICKMAN, Chairman.

GEORGE M. HARRIGAN, Vice-Chairman.

ARTHUR K. WHITCOMB, Secretary.

JOHN J. PICKMAN, Mayor	} <i>Ex-Officiis.</i>	
WILLIAM T. BENSON, President of the Com- mon Council, 152 Lawrence Street		
Ward 1—PATRICK KEYES, Jr., 213 Market Street		Term expires 1894
LAWRENCE CUMMINGS, cor. Seventh and Read Streets	" "	1893
" 2—WILLIAM H. LATHROP, 15 First Street	" "	1894
FREDERICK T. WALSH, N. E. Side Eleventh Street	" "	1893
" 3—EDWARD GALLAGHER, Sun Office GEORGE M. HARRIGAN, Office of Lowell Trust Co.	" "	1894
" 4—RANSOM A. GREENE, 25 Walker Street	" "	1894
FRED WOODIES, Office of L. M. Shop	" "	1893
" 5—ANDREW G. SWAPP, 187 Pawtucket Street	" "	1894
WALTER COBURN, 19 Congress Street	" "	1893
" 6—JOHN H. McNABB, 63 Church Street THOMAS P. BOULGER, 9 Everett Street	" "	1894
	" "	1893

STANDING COMMITTEES.

- ON ACCOUNTS — The Mayor, Messrs. Harrigan, Woodies, Boulger, McNabb.
- ON SCHOOL-HOUSES AND HYGIENE — Messrs. Cummings, Gallagher, Lathrop, Boulger, McNabb.
- ON TEACHERS AND TRAINING SCHOOL — Messrs. Swapp, Greene, Gallagher, Coburn, Keyes.
- ON REPORTS AND PRINTING — Messrs. Lathrop, Greene, Gallagher, Walsh, McNabb.
- ON BOOKS AND SUPPLIES — Messrs. Harrigan, Woodies, Coburn, Boulger, Lathrop, McNabb.
- ON SALARIES — The Mayor, Messrs. Cummings, Greene, Coburn, Walsh.
- ON PENMANSHIP AND DRAWING — Messrs. Woodies, Cummings, Walsh, Harrigan, McNabb.
- ON MUSIC — Messrs. Keyes, Woodies, Greene, Harrigan, Boulger.
- ON EVENING SCHOOLS — Messrs. Greene, Cummings, Swapp, Keyes, Walsh.
- ON RULES AND REGULATIONS — Messrs. Boulger, Swapp, Cummings, Walsh, McNabb.
- ON MILITARY INSTRUCTION — Messrs. Walsh, Boulger, Gallagher, Harrigan, Lathrop.
- ON PRIVATE SCHOOLS — The Mayor, Messrs. Swapp, Gallagher, Lathrop, Walsh.
- ON SEWING — Messrs. Gallagher, Keyes, Harrigan, Coburn, Woodies.

ASSIGNMENT OF SCHOOLS.

- THE MAYOR — Reform School.
- MR. BENSON — Reform, Middlesex Village.
- MR. KEYES — High, Reform, Worthen Street, Cheever Street.
- MR. CUMMINGS — High, Green, Morrill.
- MR. LATHROP — Varnum, Fourth Street.
- MR. WALSH — High, Kirk Street, West Sixth Street, Tenth Street, Lakeview Avenue.
- MR. GALLAGHER — London Street, Weed Street, Cottage Street, Chapel Street.
- MR. HARRIGAN — High, Butler, Agawam Street, Lyon Street.
- MR. GREENE — High, Edson, Eliot, Dover Street, Powell Street.

MR. WOODIES — Highland, Franklin, Howard Street, Grand Street.

MR. SWAPP — High, Bartlett, Cabot Street, School Street.

MR. COBURN — High, Pawtucket, Mammoth Road, Cross Street, Plain Street, Varnum Avenue.

MR. McNABB — High, Charles Street, Central Street, Ames Street, Carter Street.

MR. BOULGER — Moody, Pond Street, High Street, Fayette Street, Sycamore Street.

HIGH SCHOOL — Messrs. Coburn, Keyes, Cummings, Walsh, Harrigan, Greene, Swapp, McNabb.

A. K. WHITCOMB, Superintendent of Public Schools.
Office in City Government Building.

OFFICE HOURS. — One hour after the forenoon session of the schools,
and from 2 to 3 o'clock on Saturday afternoon.

JOHN A. SMITH, Supervisor of Evening Schools.

TRUANT COMMISSIONERS.

BICKFORD LANG. JAMES KELLY. JOHN F. WILLIAMS.

Office in City Government Building.

OFFICE HOURS. — Saturday, 2 to 3 o'clock, P. M. Other days, 4 to 5 o'clock, P. M., except during July and August, when the office will be open from 9 to 10 o'clock, A. M.

REPORTS.

REPORT OF THE SCHOOL COMMITTEE.

IN PRESENTING their annual report, the School Committee desire to express their gratification at the continued prosperity of the schools. The attendance of the scholars and their interest in their studies have been good; while the faithfulness and ability of the teachers, with their increased desire to develop in their pupils a love for their work, have been productive of the best results.

It will be seen by the report of the Superintendent of Schools that the annual expenditure for this purpose is about two hundred thousand dollars. While this amount may seem to be large, we feel that even a larger sum could be wisely spent for the schools, and be followed by lasting benefits.

Under the careful supervision of the Superintendent, who brings to this work an experience of many years as a teacher, the schools are progressing as rapidly and creditably as at any time in their history. While some of our neighboring cities boast of greater expenditures, and more advanced progress, we are confident that the more conservative position which our schools have occupied for many years is both wiser for the city, and more profitable for the pupils.

There is no more perplexing question suggested to this Committee than the oft-recurring proposal to introduce some new study. In this direction, also, it may truthfully be said that our schools have been conservative in their policy, as compared with those of other cities. They have waited for the experience of others, before adopting innovations or making changes.

It will be seen on reflection, however, that there have, nevertheless, been very many innovations upon the old-time curriculum, within the past few years. Drawing, Sewing, Military Instruction, Calisthenics, Music, and the Kindergarten have been introduced, while many improved forms of teaching old subjects make learning easier and more attractive. These all have gained admission, while manual training comes knocking at the door, with the best of credentials, and every prospect of benefit to the schools.

But additions to the curriculum require a portion of the schools' allotted time. This is inflexible in duration, and has not been lengthened of late years, but rather in fact shortened. Vacations are longer, holidays more frequent, and each week the full holiday on Saturday causes a loss of time.

Essential studies, those absolutely necessary to a common school education, are always the same, and the question is arising in the minds of many educators whether there may not be danger that these studies will suffer from neglect. If, in former times, without

the new studies, pupils required all the time allotted to them for a thorough knowledge of their work, it is very obvious that some of the old studies are at present liable to be imperfectly learned, unless, as is, indeed, frequently the case, the pupil spends a greater number of years in completing his course.

Recently, it was alleged that a grave deficiency in English Composition was shown by the young men presenting themselves for admission to Harvard College, and this deficiency was believed to be due to the fact that this important subject had been neglected in the course of instruction in the preparatory schools. As many persons disputed the fact that any such deficiency existed, a committee was appointed to make a careful investigation. This committee, of which Mr. Charles Francis Adams was chairman, has published its report. They examined some three hundred and fifty papers, culled from the entrance examination papers of twelve preparatory schools. Many of these papers are reprinted in Mr. Adams's report, to show exactly how they were written, and the committee state that among all these papers there is scarcely any relief from the dull monotony of bad English. In a large number of the papers it is impossible to tell what the writer intended to say. There is no doubt left in the mind of the reader of this report that a serious defect has arisen in this department of instruction.

Prof. Goodwin, in commenting on this report, states his belief that the deficiencies in instruction extend back certainly as far as the grammar schools, and he believes that very early and constant drilling will alone correct the evil. To use the words of President Eliot, there must be "constant practice under judicious criticism" in all the schools. This practice, the committee say, should not be purely and simply a study of English, as such, but should occur incidentally, in connection with other studies. There should be, they say, more written recitation and less oral, and the writing should be corrected in the matter of English composition as carefully, as in regard to the particular subject under consideration.

While this report has made no direct reference to our own schools, they are to some extent amenable to this criticism. There is certainly occasion for reflection in the presentation of such an array of facts, and a reflection that possibly the same condition which is alleged to exist with regard to English composition may be true also of other equally important elementary studies.

Our great protection against any such deficiencies lies in the good judgment of the teachers themselves. In fact, mere rules can never be made to act as a substitute for the devotion and wisdom of a competent instructor, who can best judge whether a pupil has spent a sufficient time upon any par-

ticular study. The teachers, therefore, must not be unduly hampered, and required to devote time to a large variety of minor studies, which can only be pursued in a very superficial manner, while the time which these studies occupy is absolutely required by the great essentials.

As a matter of fact, we believe that in our own schools there has not been that departure from fundamental and essential teaching that has prevailed very commonly elsewhere. We have seen very creditable "stories" written by primary scholars, and the compositions of the more advanced pupils seem to be fully as clear and correct as can be expected from persons of their age.

Tendencies, however, are very subtle, and often pass for a long time unobserved, as possibly in this matter.

The success of our schools is greatly aided by the co-operation of the parents, who are, almost without exception, ready to assist the teachers in their work. Both the discipline and the instruction require this co-operation. Where the parent endorses and supports the teacher, the instruction given has more weight with the pupil, and hard study is undertaken with more enthusiasm.

The people of our city are united, without doubt, in the determination that all children shall be educated, and, with this support, the prospect for the

future of our schools is one of increasing strength and usefulness.

WILLIAM H. LATHROP,
RANSOM A. GREENE,
EDWARD GALLAGHER,
FRED. T. WALSH,
THOMAS P. BOULGER.

Report of Evening Schools.

Gentlemen of the School Committee:—

The Committee to whose care the Evening Schools are consigned, take pleasure in reporting them in good condition. To the observer it is clear that the cause of education is dear to the heart of the people. The provision made to put educational advantages within the reach of the poorest proves this. It is also clear to the observer that there is sure, if not rapid, progress in educational ideas and methods. The school system of Lowell has advanced during the last few years. Continuous service on the School Board helps one to that discovery, at least. The Training School, Kindergarten, and Manual Training, sure to come soon, prove this. No department of the Lowell school system, however, shows greater progress than the Evening Schools. Many can remember when the pupils of these schools gathered around tables, in places not always the best, for mental training, and when the gathering was scarcely better than a mob of disorderly elements, come together for anything but the serious purpose of gaining instruction. Now all this has been changed. The accommodations provided are, as a rule, equal to those of the Day Schools. Excellent teachers, as a rule, are employed, and excellent work is done. The Day Schools scarcely exceed the Evening Schools in the way of order and discipline. The visitor to the Evening High School, and the school in the Green School building, one of the largest of the elementary schools, is surprised at the quiet, the order, the industry that prevail, and, indeed, the same is true of all the schools. Much of this is owing to the intelligent and energetic oversight of the schools by Supervisor Mr. John A. Smith, to whom is largely due the success of the Evening School system in Lowell.

There are at present ten elementary schools in various parts of the city.

The Evening High School is constantly improving under the able management of Mr. Frank S. Clark. It has a course of study well planned that is working effectually. Graduates of the school are at present occupying positions there as teachers, and doing good work. Hundreds of boys and girls and young men and women have reason to be grateful to the city for the educational advantages offered by the Evening Schools.

GRADUATING CLASS 1892.

REGULAR THREE YEARS' COURSE.

Elizabeth Messer Collier.
 Elizabeth Frances Cooney.
 Elizabeth Lauretta Fox.
 Helen Quinten Gallagher.
 Sarah Agnes Honan.
 Agnes Theresa Horan.
 Margaret Mary Gannon.
 Ellen Josephine Kennedy.
 Isabelle Grace McGregor.
 Josephine Theresa O'Brien.
 Mary Hannah Popplewell.
 Patrick Bowen.
 Ralph Augustus Cullen.

Thomas Francis Carey.
 Thomas Croan.
 John Collier.
 Henry James Daly.
 James A. Fitzgerald.
 Thomas Francis Golden.
 Charles Henry Holgate.
 Dennis Francis Lynch.
 Maurice Joseph Murphy.
 John Patrick Mahoney.
 William Smith.
 Edgar Amos Winters.
 William Weston Wyman.

CHEMISTRY CLASS, THREE YEARS.

Katharine Norris.

Samuel Medley.

SHORTHAND AND TYPEWRITING CLASS, TWO YEARS.

Nellie Margaret Wood.

Roy Blanchard Wheeler.

SUMMARY FOR THE TERM OF 1892-93.

SCHOOLS.	Number of Teachers at Beginning of Term. Close of Term.		Evenings Taught.	Whole num- ber of pupils on time book during term.			Average No. of pupils belonging to the school.			Average Attendance.			Per Cent. of Attendance.
				Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
High	14	13	73	345	213	558	123	101	224	116	73	189	81
Aiken Ave.	6	6	73	90	60	150	72	38	110	68	34	102	92
Bartlett	17	17	73	—	445	445	—	337	337	—	309	309	86
Butler	9	7	73	165	47	212	120	34	154	87	20	107	70
Colburn	11	5	73	175	63	238	97	45	142	75	35	110	77
Edison	6	5	69	120	59	179	45	32	77	38	27	65	84
Franklin	8	8	73	141	97	238	75	65	140	69	58	127	84
Green	28	25	73	863	—	863	516	—	516	463	—	463	90
Moody	9	7	74	160	120	280	80	52	132	61	46	107	81
Varnum	5	3	73	123	52	175	73	34	107	69	27	96	90
Worthen	6	6	73	—	289	289	—	133	133	—	104	104	78
Totals	121	102	—	2182	1445	3627	1201	871	2072	1046	733	1779	83

School-Houses and Hygiene.

To the School Committee:—

GENTLEMEN,—The Committee on School-houses and Hygiene of the School Committee would recommend that before any alterations or improvements are made in school buildings in 1893, the sub-committee of each school shall make a report to the School Committee, said report to be sent subsequently to the Committee on Lands and Buildings of the City Council.

The Special Committee on revision of the city charter this year recommended to the City Council that before any purchase of land for school purposes is made, or the plans for school buildings are approved, the locality for the new school-house and the plans for the building shall be accepted by the School Committee.

Your committee believes that this provision should be incorporated in the ordinances of the city, and would recommend that the City Council of 1893 be requested to take favorable action on such a request.

During 1892 the plans for a new grammar school-house on Chelmsford Street, and a new primary school-house in the Oakland District, have been accepted by the City Council, and work is now in progress on the erection of the buildings.

The Superintendent of Public Buildings informs the committee that the new Moody School-house will be ready for pupils March 1, 1893, and the new High School-house will, by extra work, be ready for scholars Sept. 1, 1893.

The committee has sent a request to the City Council that a new primary school-house be erected in Centralville, in the vicinity of the Hildreth burial-ground. We are informed that the Committee on Education of the City Council has visited the locality designated in the request of the School Committee, and action on the same may be expected from the incoming City Council.

Respectfully submitted,

LAWRENCE CUMMINGS,
EDWARD GALLAGHER,
WILLIAM H. LATHROP,
A. W. HILL,
THOS. P. BOULGER.

Report of the Superintendent.

OFFICE OF THE SUPERINTENDENT OF SCHOOLS,
DECEMBER 31, 1892. }

Gentlemen of the School Committee:—

In accordance with your rules, I have the honor to submit the following as my report for the year 1892:—

SUMMARY OF STATISTICS.

Value of real and personal property	\$64,717,304
Population, estimated	84,000
Number of polls	22,886
Increase for the year	1,868
Number of children between five and fifteen years of age, May 1, 1892	12,552
Ward One, 1,651; Ward Two, 2,122; Ward Three, 2,679; Ward Four, 1,958; Ward Five, 2,717; Ward Six, 1,425.	
Number of Public Schools	45
One High, eight Grammar, thirty-one Primary, four Mixed, one Training, one Kindergarten.	
Number of Public School Buildings	46
Number of teachers employed, Dec. 31, 1892	210
High School, three males, thirteen females.	
Grammar Schools, eight males, seventy-six females.	
Primary Schools, ninety-five females.	
Mixed Schools, two females.	
Training School, five females.	
Kindergarten, two females.	
One teacher of penmanship.	
One teacher of drawing.	
One teacher of music.	
One teacher of sewing.	
One teacher of physical culture.	
One military instructor.	
Number of teachers of Evening Schools, term of 1892-3	102
Whole number enrolled in the Evening Schools, term of 1892-93	3,627
Whole number enrolled in Day Schools	11,558
Average number belonging to all the Day Schools	8,385
High, 449; Grammar, 3,533; Training and Primary, 4,292; Mixed, 67; Kindergarten, 44.	
Average attendance in all the schools	7,474

High, 426; Grammar, 3,224; Training and Primary, 3,728; Mixed, 59; Kindergarten, 37.	
Average number belonging to each teacher	40
High, 28; Grammar, 41; Training and Primary, 43; Mixed, 22; Kindergarten, 22.	
Average number belonging to each room	41.5
High, 30; Grammar, 41; Training and Primary, 43; Mixed, 22; Kindergarten, 37.	
Average per cent. of attendance	91
High, 95; Grammar, 91; Training and Primary, 90; Mixed, 90; Kindergarten, 84.	
Average cost of each pupil, for tuition only, based on average number belonging	\$17 80
High, \$35.25; Grammar, \$17.56; Training and Primary, \$15.31; Mixed, \$22.98; Kindergarten, \$22.97.	

RECEIPTS AND EXPENDITURES.

RECEIPTS.

Balance undrawn Jan. 1, 1892	\$ 890 96
Appropriated and assessed	200,000 00
Received from other sources	831 19
Total standing to credit of schools	<u>\$201,722 15</u>

EXPENDITURES.

Paid to the teachers of Day Schools:—

High School	\$15,826 00
Grammar Schools — Bartlett	\$5,657 25
Butler	8,321 64
Colburn	1,990 58
Edson	7,967 22
Green	7,632 76
Highland	10,243 56
Moody	6,235 37
Pawtucket	4,817 37
Varnum	8,166 49
Primary and Mixed Schools	61,037 24
Training School	60,190 99
Kindergarten	7,087 12
Teacher of penmanship	319 00
Teacher of drawing	1,250 00
Teacher of music	1,250 00
Military instructor	1,250 00
Teacher of sewing	250 00
	794 75

Total paid for instruction in Day Schools, inclusive of instruction in military tactics in High School \$149,255 10

Paid for Evening Schools:—

To teachers	\$11,929 25
Janitors	1,412 50
Lighting	939 07
Incidentals	210 27

 \$14,491 09

Evening Drawing Schools:—

To teachers	\$3,242 50
Janitors	84 75
Lighting	396 05
Incidentals	114 86

 3,838 16

Fuel	11,144 93
Bills of Superintendent of Public Streets for hauling coal	278 56
Bills of Water Board for water	1,815 15
General repairs, material, labor, etc.	515 68
Bills of Superintendent of Public Buildings, for lumber, making and repairing furniture, labor and new furniture	931 60
Distributing 10,000 School Reports	47 50
Text books	3,148 36
Supplementary reading	856 78
Drawing books, writing books, slates, pens, ink, paper, etc.	3,280 39
Incidentals on account of same	405 94
Books, charts, etc., for general use	128 00
High School Battalion	257 25
High School graduating exercises	80 00
Rebinding school books	36 05
Taking census of school children	652 60
Rent of telephones	107 86
Board and care of horse, wagon, and harness	330 25
Power for ventilating purposes	225 00
Sewing material	95 80
Rent of temporary rooms for school purposes	787 00
Lowell Gas Light Company for gas for Day Schools	243 55
Supplies for janitors	485 96
Kindergarten material	175 64
Salary of Superintendent	2,600 00
Salary of Supervisor	1,350 00
Salary of Truant Commissioners	2,700 00
Miscellaneous	1,187 37

 Total expenditures \$201,451 57

Balance undrawn 270 58

 Total \$201,722 15

SCHOOL-HOUSES.

RECEIPTS.

Balance undrawn Jan. 1, 1892 (Moody School)	\$37,865 28
Appropriated and assessed	25,000 00
Loan	20,000 00
Transferred	8,000 00
Received from other sources	5,047 09
Total	\$95,912 37
Balance (new High School building)	\$111,132 35
Loan	35,000 00
Receipts	6 99
Total	\$146,139 34

EXPENDITURES.

For Moody School	\$47,926 25
Janitors	18,721 60
General repairs	18,630 34
Total expenditures	\$85,278 19
Balance undrawn (Moody School)	9,939 03
“ “ school-houses	695 15
Total	\$95,912 37
For new High School	\$87,462 52
Balance undrawn	58,676 82
Total	\$146,139 34

A comparison of the preceding tables with those of previous years shows some unexpected results. The population of the city has increased very rapidly, from 81,812 in 1891 to 84,564 at the present time, according to the carefully prepared estimates of the Board of Health, but the number of children between five and fifteen years of age, as reported by the census enumerators last summer, was only 12,552, as against 12,749 the year before, a falling off of 197. Why the number of children should decrease while the adult population is increasing is not easy to explain. Although the number of pupils enrolled in the day schools is also slightly less than last year, the average number belonging shows a small but gratifying increase of 214, from 8,168 in 1891 to 8,341 in 1892, the latter number not including forty-four in the Kindergarten. The

per cent. of attendance also shows a gain of one per cent., a still further reason for congratulations, while the cost per pupil for tuition remains exactly the same, \$17.80.

The total enrollment of the day schools, not including the Kindergarten, was 11,509. Of these 422 were over fifteen years of age, leaving 11,087 between five and fifteen. There are in the city thirteen private schools, but we have no accurate statistics as to the number of pupils in them. In April of each year we are required to make a report to the State Board of Education, one item of which relates to the number of scholars in private schools. To enable us to do this accurately we send a circular to each private school, asking for the needed information. Last April a little more than half of the private schools were kind enough to answer our questions, and from their replies, and the estimates we were forced to make where no answers were received, we felt justified in concluding that there were at least 3,500 pupils in these schools. Adding this number to the number between five and fifteen enrolled in the public schools, we have a total of 14,587, as against only 12,552 children in the city as reported by the census enumerators. The apparent excess of the number attending over the number to attend is explained by the fact that many pupils were enrolled at different times in both classes of schools, and the only value of these figures is in the assurance they give that nearly all children of school age in Lowell must have been in school somewhere.

The total expenditure of the year, \$201,451.57, is less than I had expected, and for the first time in several years the school department has the satisfaction of knowing that it has lived within its appropriation. The cost of the schools next year can hardly fail to be greater, the increase of salaries voted last July alone amounting to about \$4,000. Our substitute teaching also costs us more than it used to do. Substitutes formerly were paid \$1.25 per day, but now nearly all are on the \$2.25 list, and as only \$1.25 is deducted from the teacher's pay for short absences the city's expenses are increased just one dollar for every day (less than a month) which a regular teacher is absent on account of sickness. The smaller classes of pupil-teachers at the Training School will necessitate the employment of more graduates, thus adding to the cost of the school. The two Kindergartens which we are to have next year will also add a little, and against all these items of increased expenditure I do not know of one where we can reason-

ably expect a decrease of a single dollar. Supplies, such as supplementary reading, globes, maps, sand-boards, weights, measures, etc., ought certainly to be furnished much more liberally. It is not true economy to pay out large sums for school-houses and teachers, and then deprive the latter of the tools with which they are to work. "Mark Hopkins at one end of a log and a student at the other" might make a University, as Garfield is said to have declared, but the average teacher needs something more, and I fancy that even a Hopkins would have considered it true economy to invest something in books and apparatus a little more elaborate than that suggested by his admiring pupil. Anyway, I propose to-morrow to form a new year's resolution, which I believe will be a good one, to ask the committee to devise much more liberal things next year in the way of ordinary supplies. At least \$210,000 will be required next year to meet the necessary expenses of the department, and \$220,000 could be wisely and economically expended.

SCHOOL-HOUSES.

In the school reports of other cities I have several times seen the statement made that pupils could not be received in some schools because of a lack of room. Lowell's school-houses may not all be of the best and most expensive kind, but we are certainly spared the shame of making any such confession as the one referred to above. There is no section of the city where a pupil seeking admittance to a school cannot be accommodated with a good seat and free books in a comfortable room. The schools which are in poorest quarters at present are the Moody and the High School, and both of these will occupy new and commodious buildings within a few months. Of the houses asked for in last year's report, two, the Grammar School-house on Chelmsford Street, and the Primary School-house at the Oaklands, have been begun, and the third, a Primary School-house in Centralville, has been asked for by the School Committee, and will probably be built next year, though the City Council has not yet made any appropriation for it. These buildings will relieve all the crowded schools of the city, except perhaps the Butler, and there will be no call to erect other new buildings next year, except to take the place of those old ones which, though once good, no longer meet the demands of modern requirements. Of these the one in worst condition is the Bartlett, and I strongly recommend the erection of a new Grammar School-

house in Ward Five to take the place of the antiquated structure which now graces, or disgraces, the easterly side of the North Common.

The Butler School continues to be the most crowded of the Grammar Schools, having at present over 500 pupils for the eight rooms of the main building. Two classes are forced to find seats in the hall. The principal of the school has been pleading for a four-room addition for several years. The reasonableness of his request was recognized last year, but it was known that a new Parochial School was to be opened on Moore Street, and it was thought that this and the new Chelmsford Street School together would adequately relieve the Butler. The Parochial School, however, though opened in September, has not reduced the numbers at the Butler at all, and I am now satisfied that the Chelmsford Street School, while it will naturally take all of those pupils living in Ayer's City, will not reduce numbers at the Butler sufficiently to do away with the need of more room. I do not see how this can be provided as well as by erecting a four-room addition to the present building, and I earnestly urge that this be done as soon as possible.

SCHOOLS AND TEACHERS.

If the old adage is true which says, "Happy is that country which makes no history," and if the same saying can properly be applied to schools, the last year has been a prosperous one for most Lowell schools and teachers. Progress has unquestionably been made in some respects, and I am sure that our schools average better than a year ago, but there have been no revolutions or radical changes. Some new work has been introduced, especially in the Primary Schools, but even this has been quite largely old lessons under new names and with different methods. That the public is fairly well satisfied may be inferred from the fact that there have not been a half-dozen complaints brought to the superintendent from all the parents of the city, and that these have almost all been answered to the satisfaction of the complainant without trouble to the teacher.

The changes in the roll of teachers are as follows:—

DECEASED.

	Term of Service.
Samuel Bement, master Bartlett School	42 years.

RESIGNED.

	Term of Service.
Nettie E. Carleton, Edson School	25 years.
Elizabeth A. Balch, Moody School	19 "
Carrie F. Smith, Moody School	9 "
Lucy F. Carleton, Cottage Street School	37 "
Blanche E. Fay, Green School	7 "

TRANSFERRED.

Carrie A. Paul, from the Training School to the Edson School.
 Anna A. Sargent, from the Edson School to the Cheever Street School.
 Bertha M. Rowlandson, from the Cheever Street School to the Edson School.
 Jennie E. Fay, from the Fayette Street School to the Green School.

ELECTED.

Cyrus A. Durgin, to the Bartlett School, as master.
 Agnes T. Fay, to the Fayette Street School.
 Cora M. Howe, to the Moody School.
 Alice A. Masterson, to the Cottage Street School.
 Ellen B. Foster, to the Dover Street Kindergarten.
 Nettie Conant, to the Dover Street Kindergarten.
 Anna W. Devereaux, to the Training School Kindergarten.

HIGH SCHOOL.

The number of pupils in the High School has fallen off a little, from an average of 465 last year to 449 this year, a fact probably due to the cramped and unattractive quarters in which the school is still located. An increase of numbers may confidently be expected when it shall occupy the new building which is promised by next September. Notwithstanding the unfavorable conditions the usual excellent work is being done by the teachers, and the largest class in the history of the school was graduated last June. The programme of the graduating exercises, and the names of the graduates and of the Carney medal scholars, are herewith given.

PROGRAMME.

MARCH. "The Battalion" *W. E. Owen*
AMERICAN ORCHESTRA.

OVERTURE. "Festival" *Leutner*
AMERICAN ORCHESTRA.

BUT ONE FLAG FOR OUR COUNTRY.
HARRY G. POLLARD.

EARLY DAYS OF LOWELL *Written by Blanche F. Edwards*
BLANCHE F. EDWARDS.

WOMEN OF THE COLONIAL DAYS *Written by Annie R. Chase*
ANNIE R. CHASE.

MUSIC. "Sweet the Angelus is Ringing" *Smart*
(Young Ladies of the School.)

PIPES AT LUCKNOW.
PERCIVAL G. BARNARD.

THE PRINCESS.

MARY A. COX.

FLORENCE G. GILMORE.

EDITH M. ABBOTT.

ALICE GILMAN.

FANNIE M. PICKETT.

ISABELLE D. WILSON.

LELA I. MALLORY.

BELLE G. RANDALL.

ANNIE R. BAKER.

LILLA M. STANLEY.

OLIE M. CONKLIN.

THE SPHERE OF WOMAN *Written by Maud E. Paradis*
MAUD E. PARADIS.

MUSIC. "Introduction and Waltzes" *Grace*
W. E. OWEN.

WALPOLE'S ATTACK ON PITT, AND PITT'S REPLY.

GEORGE L. CADY, JR.

JOHN J. WALSH.

THE AMERICAN RHINE *Written by Mary I. Dame*
MAMIE A. HOBBS.

MUSIC. "Bright Summer is Here" *W. E. Owen*

CHRISTOPHER COLUMBUS *Written by Edna R. Harper*
FLORENCE A. MANNING.

THE COLUMBIAN EXPOSITION *Written by Grace F. Colcord*
EDNA A. HANSON.

MUSIC. { (a.) "See How Lightly" *Donizetti*
{ (b.) "Love of Country" *Bellini*

VALEDICTORY.

GEORGE H. SPALDING.

PRESENTATION OF CARNEY MEDALS.

BY GEORGE M. HARRIGAN, VICE-CHAIRMAN OF THE SCHOOL COMMITTEE.

PRESENTATION OF DIPLOMAS.

BY SUPT. A. K. WHITCOMB.

SINGING OF CLASS ODE *W. E. Owen*

(Words by Edith M. Abbott.)

By life's broad stream a busy mill
 Is turned by the wheels of Time,
 Again and again the water falls,
 With a merry dash and chime;
 And the patter of the pouring grain,
 Reminding one of the falling rain,
 Joins with the wheels' dull rhyme.

Like the golden grains, we, too, must pass
 Through the whirl of a restless mill,
 Ere each is best prepared in the world,
 Some waiting place to fill.
 Though tasks for all do school days bring,
 Mirth joins to make the echoes ring;
 And friendship reigns at will.

These happy days of toil are past;
 Our hopes of the future are bright;
 Oh, may we learn from Him above
 Each day to live aright,
 And, though we now must say farewell,
 May we, at last, His praises tell,
 Where all is endless light.

Graduates for 1892.**FOUR YEARS' COURSE.**

Percival Gates Barnard.	John Prescott Wright.
Joseph Thomas Louis Brennan.	Edith Marion Abbott.
Frank James Buchanan.	Agnes Bailey.
Donald Cheney Campbell.	Annie Richard Baker.
Frank James Campbell.	Annie Rosalba Chase.
Harry Wescott Clough.	Mary Alice Cox.
John Francis Connors.	Blanche Fannie Edwards.
William Wallace Duncan.	Edith Alice Ford.
Charles Ether Foss.	Alice Gilman.
James Gilbert Hill, Jr.	Florence Gertrude Gilmore.
Cecil Alonzo Page.	Grace Greenleaf Harris.
Guy Clifford Pierce.	Flora May Holt.
Harry Edward Pickering.	Lela Irene Mallory.
George Homer Spalding.	Maud Eva Paradis.
William Harrison Thomas, Jr.	Fannie Margery Pickett.

THREE YEARS' COURSE.

George Herbert Barton.	George Lyman Cady, Jr.
Fred Kittredge Burtt.	Thomas Francis Costello.
Byron Fred Cady.	George Walter Gilman.

Charles Samuel Hale.
 Frank Eugene Hallas.
 William Morris Holman.
 Otis Theodore Lockhart.
 Don Eugene Maker.
 Charles Abbott Martin.
 John Thomas McLaughlin.
 Walter Ewing Murkland.
 Ralph Waldo Pindar.
 Harry Gilmore Pollard.
 James Joseph Shea.
 William Edward Tomlinson.
 John Joseph Walsh.
 Charles Henry Ward.
 Fred Rufus Williams.
 Arthur Andrew Wright.
 Louise Allen.
 Maude Catherine Barry.
 Rebecca Hilda Barry.
 Katherine Frances Brady.
 Alice Elizabeth Burt.
 Mary Agnes Rose Campbell.
 Grace Florence Colcord.
 Olie May Conklin.
 Rosetta Marie Courtney.
 Margaret Jane Cronin.
 Mary Isabel Dame.

Daisy Blanche Dexter.
 Elizabeth Ernestine Foster.
 Edith Gilman.
 Harriet Elizabeth Gormley.
 Edna Ernestine Hanson.
 Edna Richmond Harper.
 Margaret Ellen Harrington.
 Mamie A. Hobbs.
 Emma May Kittredge.
 Ethel Livingston.
 Bertha May Magoon.
 Florence Arcadia Manning.
 Marcia Lillian Nichols.
 Margaret Eugenia O'Brien.
 Lillian Endicott Owen.
 Alice Maud Peabody.
 Margaret May Perham.
 Elizabeth Marie Rafter.
 Belle Galbraith Randall.
 Katherine Elizabeth Reidy.
 Bessie Smith.
 Clara Martin Snow.
 Lilla Maud Stanley.
 Sadie Emily Tully.
 Mary Ellen Whitson.
 Isabelle Dudley Wilson.
 Mary Hannah Wilson.

Alice Gertrude Woodies.

CARNEY MEDAL SCHOLARS.

George Homer Spalding.
 Frank James Buchanan.
 Percival Gates Barnard.

Alice Gilman.
 Edith Marion Abbott.
 Lilla Maud Stanley.

In the report of the Committee on Reports reference is made to criticism of the teaching of English in schools below the college. The subject is a timely one, and to show what is being done in this line in our own High School the Principal, Mr. Coburn, has written, at my request, the statement which follows. Accompanying the letter were copies of the questions used in recent examinations, which were of a nature to show that the work done must have been of the most thorough and practical kind:—

HIGH SCHOOL, DEC. 23, 1892.

Mr. A. K. Whitcomb, Superintendent of Schools:—

DEAR SIR—The following is a brief statement of the English course of study in the High School. During the past few years there has been an

increasing demand, both from the colleges and the public press, for better results in the teaching of English. The schools recognize the justice of the demand, and they are endeavoring to meet it. Among the objects to be attained, is the ability to write correctly and to speak fluently the English language. The preparation in English required for admission to the colleges and the Institute of Technology may best be understood by reference to the following extract from the catalogue of the latter institution:—“(1) The candidate will be required to write, in an hour, on some subject already familiar to him, a short English composition, correct in spelling, punctuation, grammar, idiom, and division into paragraphs, and plain and natural in style.” “(2) The candidate will also be required to correct specimens of bad English set for him at the time of the examination.” Then follows a list of books from which the composition subjects will be selected. The books for 1893 are, Scott's *Marmion*, Longfellow's *Courtship of Miles Standish*, Addison's *Sir Roger de Coverley Papers*, Macaulay's *Second Essay on the Earl of Chatham*, Emerson's *American Scholar*, Irving's *Sketch Book*, Scott's *Ivanhoe*, Dickens' *David Copperfield*.

To meet the above requirements one recitation period each day for one and one-half years has been allotted. A portion of this time is given to reading such books as are named. A number of books are read aloud in the class, with a view to a clear understanding of the text, and others are read outside of the class-room. Another portion of time is devoted to writing essays on subjects selected from these books, the pupil to write in a limited time, and without notes. Another exercise is the correction of sentences illustrating mistakes in the use of language.

In the regular three years' English course, one recitation period each day, for two and one-half years, is given to the subject of English.

The first year's work embraces a study of the history of the language, composition and the arrangement of sentences, letter-writing and punctuation. The greater portion of the second year is devoted to what is usually called technical grammar—analysis of sentences and syntax. In the third year one-half of the time is given to Rhetoric, and the other half to Literature. This work is similar to that mentioned under the college requirements. Many cheap editions of the works of the best writers are now published, and by this means the teacher can place before the pupil examples of the best English, and so establish good habits of thought and expression.

Yours truly,

F. F. COBURN.

GRAMMAR AND PRIMARY SCHOOLS.

The average number of scholars belonging to the Grammar Schools was 3,533, an increase of 143 over last year. They received 1,026 pupils from the Primary Schools, and graduated 248, of whom 195 entered the High School. The graduates were a little

over eight per cent. of the number belonging, a higher per cent. than has ever before been attained, and an indication that the average of pupils who remain in the Grammar Schools to complete the course is increasing. It is also an indication of good work in the schools of which the teachers have a right to be proud. The average per cent. of graduates of the Grammar Schools to the number belonging for the last twelve years has been six and three-tenths per cent., and for the last three years about seven per cent.

The only new teacher elected to a Grammar School during the year was Mr. C. A. Durgin, who was chosen in July to succeed the late Mr. Bement as master of the Bartlett School. Mr. Durgin is a graduate of Amherst College, class of 1890, and his only experience in teaching had been as teacher in the Evening High School, and temporary teacher in the High School in 1891. He has, however, scored a marked success in his new position, and the Bartlett School is to be congratulated upon his election.

The Primary and Mixed schools have been singularly free from change during the year. The number of pupils has scarcely varied at all, the number and location of school-rooms is exactly the same, and there have been but three changes in the roll of teachers. The year, though uneventful, has been a pleasant and successful one, and the average of work done is excellent, better, I believe, than ever before.

COURSE OF STUDY.

The course of study for Primary Schools was revised early in the year, and the new course has been in use since September. The changes were mainly in the introduction of a little nature study, and of a little work in geography. Teachers have taken hold of this new work, especially the nature study, with much enthusiasm, and are already, in many schools, producing excellent results. A few changes should be made in the Grammar School course during the next year.

TRAINING SCHOOL.

The Training School has done a successful year's work, graduating twenty-one pupil-teachers, caring for an average attendance of about 500 scholars, and sending a class of twenty to the High School. Only one change has been made in its corps of teachers, and but one in its rules. Miss Paul, teacher of the first room of the Grammar department, was transferred to the Edson School in

April, and the vacancy has not been filled, the room being at present in charge of a member of the senior class of pupil-teachers. Early in the year the rule by which the members of the senior class were set apart for substitute teaching, with a result that they often had nothing to do, was changed so that they were given steady work at the Training School when not needed elsewhere. Their pay, which had been \$15 per month whether they worked or not, with an addition of \$1.25 per day if employed, was increased to \$20 per month, with no additional pay for substitute work. The change secured steady employment and equal pay to all, and was a manifest improvement. The number of pupil-teachers in the school at present is eighteen, divided in classes as follows: seniors, nine; middlers, five; juniors, four.

Following are the names of the graduates:—

FEBRUARY CLASS, 1892.

Alice C. Greene.	Katherine L. Walsh.
Anna A. Burnham.	Margaret M. Sparks.
Ellen J. Piper.	Winifred M. Kneeland.
Mary M. Kearney.	Katie May Usher.
Martha Rogers.	Susan G. Neilon.

JUNE CLASS, 1892.

E. Belle Perham.	Harriet B. Witherell.
Mary J. Callahan.	Elizabeth G. Morgan.
Annie E. Donovan.	Mary A. Gorman.
Lillian L. Sproat.	Mary Meehan.
Annie E. King.	Alice I. Smith.

Lena H. Penn.

All graduates of classes earlier than that of June, 1891, have now been elected to permanent positions. That class numbered twenty-seven, all but one of whom are still on the waiting list, and the two classes named above increase the number of candidates who are eligible for election as teachers to forty-seven. Of these about two-thirds are already receiving steady employment as substitute and temporary teachers; but very few, if any, of the last class have yet been called into service. A half-dozen or more have accepted positions elsewhere, and all, so far as heard from, are giving excellent satisfaction. Several others have refused calls to teach away from home, and offers of small salaries, as for instance \$8 per week, have found no takers. All the graduates of the Training School who are not regularly employed in Day Schools, with possibly one exception, are now teachers in the Evening Schools,

where they get \$5 a week, and this sum, at home, they naturally consider better than an \$8 or \$10 a week position in a Day School outside the city. A higher salary would doubtless tempt some, as it has already tempted others who have gone, and after the next class graduates, February 1st, or after the Evening Schools close, it is not at all unlikely that some graduates will be willing to accept smaller salaries. These young ladies have all had a full year's successful experience in teaching, and can generally be confidently recommended as competent to do good work.

KINDERGARTENS.

The Kindergarten has long since passed the experimental period in many cities, and has the almost universal indorsement of leading educators everywhere. This fact, and the popularity of the private Kindergarten in Lowell, led to a desire to have this form of child-training tested here, as a part of the public school system, and a beginning was made last September in a room of the Dover Street School-house. As it was uncertain how many pupils would appear, only one teacher, Miss Ellen B. Foster, was engaged, but the presence of more than forty children the first forenoon showed the necessity of another teacher, and Miss Nettie Conant was added the next day. Miss Foster is a graduate of the best schools of Boston and New York, and has had a half-dozen years of successful experience. Miss Conant holds a diploma from Miss Page's Normal Kindergarten School of Boston, and, although she had never taught, she has proved a very efficient assistant to Miss Foster, and together they have made our first Kindergarten one of the most popular institutions in the city. The total number of pupils registered has been forty-eight, with an average attendance of thirty-seven. The Kindergarten age is usually reckoned as from three and one-half to seven years, but at Dover Street it was thought wise to avoid danger of over-crowding by cutting off some from each extreme, and those only were received who were between the ages of four and five and one-half years. As this was the only public Kindergarten in Lowell it was, of course, open to children from any part of the city, and a few were brought by their parents very long distances, but a majority were residents of the section in which the school building is situated.

If the Kindergarten is to become, as its friends hope and expect, an integral part of our school system it seems to many to be the

duty of the city to provide some place where young ladies, residents of Lowell, can obtain at home, and without great expense, the training necessary to qualify them to act as teachers. To this end the Committee on Teachers has been trying for several months to secure the services of some Kindergartner who can not only care for children forenoons, but can give to young ladies normal instruction afternoons. Teachers of successful experience in this latter line of work are not easily obtained, at least at any reasonable salary, but the committee now believe that they have found the right person for the place, and at the last meeting of the Board, December 28th, Miss Anna W. Devereaux of Marblehead was elected, and is expected to open a school in the Training School building on Charles Street, Monday, January 2, 1893. Her plan is to begin with a limited number of children, perhaps twenty or twenty-five, and increase this number two-fold or more after she has trained some young ladies in the work so that they will be able to give her intelligent and efficient assistance.

Although located in the Training School building the Kindergarten is an independent institution, and not a new department of the Training School. It has a room in the Training School building, partly because this is a section where it can be of service to many children, partly because there is in this building a suitable room not now used for any other purpose—a thing not easily found elsewhere—but especially that the young ladies of the Training School may have an opportunity to observe Kindergarten work; not, indeed, that they may all become Kindergarten teachers, but that they may know enough of Kindergarten methods to be able to receive intelligently the pupils from Kindergartens into the Primary Schools which they may some time teach.

WRITING.

Penmanship in Lowell schools is surprisingly uniform, and generally good, at least in the copy-books. Of the many scholars from abroad who enter our schools every year it is a rare thing to find one who writes as well as those of the grade in which he otherwise belongs. I have picked out those pupils whose education had begun elsewhere by their poorer writing so many times that I am sure I could do it in at least nine cases out of every ten. The supervisor believes that children acquire a cramped position of the hand in writing in the very first year of school life by the use of too

short pencils, and recommends the use of pencil-holders to prevent this. He thinks that tracing with dry pen might be begun in the second year, and that in the third year and thenceforth movement exercise books should be furnished and used in all the grades. He wisely considers position and movement to be of much more importance than form, and thinks the movement exercises of great value. I suggest that such books be furnished.

The best penmanship, relatively, is found in the Primary Schools, where I have seen some language exercises of which I think the teachers had good reason to be proud. To be sure, the pupils in this grade are supplied with space-ruled paper, yet the lack of this does not seem to me to sufficiently account for the falling off which not unfrequently shows itself, except in the set lessons of the copy-books, in the writing of many of the grammar grades. Eternal vigilance is not only the price of liberty, but of good penmanship in the Grammar Schools. A single room where careless work is permitted will often induce bad habits which no subsequent effort can wholly break up, and I have seen written work in high grammar grades which would disgrace a Primary School. Grammar masters have, I think, a plain duty in searching out such weak spots in their schools and speaking the truth, in kindness, of course, but with great plainness.

DRAWING.

In no other study has there been in recent years so great a change, both in object and method, as in drawing, and, in my opinion, in none has there been a greater improvement. In fact the name "drawing" is now a misnomer, for it is really art instruction, of the best and most practical kind. When first introduced in Lowell the main purpose was to improve industrial products, and the work done was mainly copying and designing. Now drawing is recognized as a natural means of expression, and it is taught for its educational value, not for the excellence of its results on paper. In the Primary Schools pupils are provided with geometric forms, which they see and handle, and whose properties they discover by observation. These forms are modeled in clay, made from paper, described and drawn. Natural forms are also studied and drawn, and some work in designing is done, the pupils being of course instructed in pencil-holding, position, and method of drawing. Some color study is also introduced. In the Grammar Schools objects are further studied as to their facts and their appearances,

almost all drawing being from nature, though a little attention is given to historic ornament and design. In the highest grades geometric work with instruments is taken up in connection with other work. The rules of perspective, once thought to be all-important, are not now taught at all in elementary work. The pupil is led to see things for himself, and then to express what he sees, and imperfect work which is the result of his own conception, is preferred to the best results which come from copying. Patterns are made, plans are drawn, and models are constructed. Drawing, then, as taught by Miss Underhill, cultivates the love of the beautiful, teaches the pupil to compare his own work with high standards; trains him to observe, and to observe carefully and accurately; and to execute with his hands quickly, neatly, and exactly. In making objects from his own drawings he proves to himself that neatness and exactness are not only desirable but imperative. Such habits are useful in any sphere of life.

EVENING DRAWING SCHOOL.

The second floor of the Mann School-house is still occupied by the classes in free-hand drawing, practical design, crayon work, and modeling, while the classes in mechanical and architectural drawing are accommodated in the hall of the Green School. The teachers are the same as last year, and the usual excellent work is being done. Attendance is as follows:—

SUMMARY FOR THE YEAR 1892.

CLASS.	Whole number of pupils on time book during term.			Average number of pupils belonging to the school.			Average attendance.			Per cent. of attendance.
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
Architectural.....	102	2	104	71	2	73	45	2	47	65
Free-hand	55	105	160	39	79	118	31	44	75	64
Machine Drawing.....	123	....	123	79	...	79	55	....	55	70
Modeling.....	10	84	94	8	62	70	5	43	48	70
Practical Design.....	5	25	30	4	21	25	4	17	21	84
Totals	295	216	511	201	164	365	140	106	246	70

MUSIC.

The following letter, which explains itself, was received from the Special Teacher of Music :—

LOWELL, DEC. 24, 1892.

Superintendent Whitcomb :—

DEAR SIR—In compliance with the request in your letter of the 20th inst., I cheerfully furnish you with the information you desire, relative to music in the schools. I shall consider it a favor if you will insert the entire letter in your report, over my signature. As to what I consider the aim of music-teaching in the schools: I strive to teach the children three things—the reading of easy music in the different keys, the singing of songs in the Grammar grades, and a smattering of musical theory. Of course the scholars do not attain the highest degree of proficiency in all these things, as it is impossible to make of every one an accomplished vocalist and musician. But when is considered the small amount of time given to this study, the large number of children to be dealt with, and the fact that while some of them have considerable musical talent, many of them have very little, I think it is remarkable that so much is accomplished. The most satisfactory part of the work to me is in the Primary Schools, strange as it may seem. This fact is due to several reasons. In the first place, the material in use in the Primary Schools is more modern and better adapted to the work than the old-fashioned books which the Grammar Schools have been singing from for more than twenty years. In the second place, the primary work, being elementary in its character, is more successfully handled by the teachers than the work of the more advanced grades, some of which requires a teacher of considerable musical ability. In the Grammar Schools, the classes having the use of a hall with a piano have a great advantage over the scholars who are deprived of this privilege. It will be a great thing for the teaching of music in the Lowell schools, when every superannuated school-house in the city is supplanted by a modern edifice with a hall in it. I cannot refer to my work in the Grammar Schools without again declaring myself, most emphatically, in favor of a change in material. I think I hear some of the members of the Board say, “the same old story.” But I want the gentlemen of the School Board to know that it is not a mere temporary affection with me, but a “chronic case,” which will yield to treatment only when the proper remedy is administered. I sincerely hope I may teach music in the Lowell schools long enough to see this change brought about which I have always so earnestly advocated. The singing in the High School is done by the girls alone; and I think it is much more satisfactory to let them sing once a week by themselves than to attempt to use the boys’ voices, many of which are in a state of transition, and many more very uncertain in everything pertaining to a musical tone. The girls sing so well that the boys’ voices would only mar their performance. This opinion is founded on what I have heard in the High Schools of other cities where the girls and boys have sung together. With regard to the

singing of the High School girls this year, one thing is certain. There never has been a time before, during my regime, when there were so many good music readers in the class, or when the pieces were so readily taken up and learned as they are this year. This is, undoubtedly, the result of the work in the lower grades, and is exceedingly gratifying to me. I cannot close without saying for the teachers that they are always ready to do all they can to make my work a success, and during my six years in the Lowell schools I have never had the slightest disagreement with one of them. And they are probably not all angels, either. Neither am I, when it comes to that. Of course I am sometimes disappointed in the lessons, but I haven't the slightest doubt the teachers teach music as successfully as I could teach arithmetic. Thanking you for this opportunity to contribute to your report, I remain,

Yours very respectfully,

WALTER E. OWEN,

Supervisor of Music.

MANUAL TRAINING.

Early in the year a Special Committee on Manual Training was appointed, which pushed its investigations very widely, and presented, October 31st, the valuable report which, by vote of the Board, is printed in full elsewhere. That no steps were immediately taken to establish a special school for Manual Training was, probably, due to the fact that the school department has no building suitable for the purpose. Next year the Mann School-house will be available, as well as the basement of the new High School-house, and it is probable that one or both of these places will be used for Manual Training. In the meantime, however, it should not be supposed that this important part of a well-rounded education is entirely neglected. In the Primary Schools, from the very beginning, the children do much work in map-drawing, stick-laying, paper-folding and cutting, clay-modelling, and the manufacture of geometrical forms and of many things like baskets, boxes, fans, etc. Form and color are taught, and both eye and hand are trained in the most enjoyable yet most effective way. In the Grammar Schools this work is extended to include articles of more difficult construction in paper or wood, which are first drawn and then made, until a deftness of hand is attained which makes the new scholar, who has lacked such training, seem by comparison very clumsy indeed. This work is the best possible preparation for sewing, which the girls take up in the fourth, fifth, and sixth years of school life, and will form an equally good basis for carpentry and joinery by the boys when they can have the opportunity, which ought to be soon.

PROMOTIONS AND EXAMINATIONS.

Promotions in Lowell schools are based upon the fitness of the pupil as judged by the teacher. In the Primary Schools daily work alone is considered; in the Grammar and High Schools written tests, with questions prepared by the teacher, are added in all grades to assist and fortify the judgment. Previous to 1882 admission to the High School was the reward of passing an examination prepared by the Superintendent of Schools, the standard of admission being usually fixed at seventy-two per cent. By a kind of unwritten law the same standard has since been voluntarily maintained by Grammar masters, who hold that their pupils ought to average as well on a series of tests given by themselves monthly, or at other stated intervals, as they were formerly required to do on the one examination of the Superintendent. There is, however, no rule of the School Committee which fixes any such standard to be attained, or, indeed, which requires any examinations at all as a condition of promotion, and the only check upon too rapid advancement is a provision in the rules for returning to the schools from whence they came pupils found not to be qualified for the grade to which they have been sent. Practically the present plan is working well. The standard of scholarship is, I think, higher than it was ten years ago, and complaints about the non-promotion of scholars are rare. The system is not ideal, since no teacher's judgment is infallible, but it is better than any other with which I am acquainted, and I suggest no change.

In all the grades of the Grammar Schools, however, there are two examinations given by a rule of the School Committee about which there is some difference of opinion. The questions for these examinations, which are given in January and June, are prepared for the highest grade by the Superintendent, and for all the other grades by the Grammar masters, acting as a committee of the whole. As the rules do not require that promotions shall depend wholly, or even mainly, on these examinations, they surely need work no injustice, and many teachers are very glad to get them. To others, however, they are a constant bugbear. I rarely suggest to a teacher that she may wisely omit something found in the text book, or that she should teach in some different way, that I am not met by the objection: "But if I dare to omit a thing, or teach by any more modern methods, I am sure to get caught on the masters' examinations;" and if the teachers of the highest grade do not say

the same thing to me of the questions which I prepare it is quite likely they think it, and possibly with good reason. If, therefore, these examinations are a bar to the best work they ought, of course, to be discontinued at once, but I am very unwilling to come to this conclusion. The Grammar masters, by virtue of their position, ought to be able to make questions which should lift rather than depress, which should be suggestive rather than restrictive, and which should, by their use in all the schools, tend to raise the teaching in all to the standard of the best. And I am glad to believe that such is, to some extent, the case. Within a week I have been told by three different teachers of work which they are now doing because their attention was called to the need of it by questions in recent examinations. And their statements illustrate the fact, well known to every supervisor, that the character of the teaching in any school can be changed more quickly by a change in the character of questions proposed as tests than in any other way. And if the questions are good, as they ought to be, the change will be for the better. I hope, therefore, that the questions by the masters twice a year will be continued, and that they will be so made by the masters, and so received by the teachers, that good, and only good, will result.

FEBRUARY PROMOTIONS.

Promotions from Primary to Grammar Schools have always been made in September, and in recent years more and more schools have taken advantage of that rule of the School Board which permits such promotions in February as well, until in 1892 Primary pupils were sent in that month to all but one of the Grammar Schools. I wish to put myself on record as strongly favoring such promotions. They increase the interest in the Primary Schools by the more frequent changes of room and grade which they make possible, and are a matter of simple justice to all pupils who are qualified for promotion. They not unfrequently so relieve the Primary Schools as to obviate the necessity for establishing overflow schools, or the placing of assistants in overcrowded rooms. In the Grammar Schools February classes would, in theory, complete the course in February, which would result in some confusion, but in practice it is always found that somewhere in the six years of the Grammar School course such pupils will either gain a half-year or lose one, so as to graduate in June, without any difficulty or confusion. In the

former case they gain a whole year in reaching the High School ; in the latter they lose nothing as compared with their mates who remained a half-year longer in the Primary School. Experience has shown that about half of a February class will gain the year above referred to — a matter of considerable importance. The only objection to such promotions is the readjustments which are sometimes found to be necessary in the Grammar Schools, and they should, I believe, be cheerfully borne in view of the general good. Exceptions should be made only in those Grammar Schools which are already too full to receive any more pupils, and even in these cases I am not sure that it is not the duty of the School Committee to find rooms elsewhere. If a class is qualified for promotion it may properly, I think, demand it as a right, and fitness should be the only condition.

LENGTH OF GRAMMAR SCHOOL COURSE.

Criticism of the public schools is one of the things which we have always with us. If unjust, it wears itself out in one form, only to appear in another ; if deserved and heeded, it wastes no time in rejoicing over the reform, but hastens to find other objects of attack. Though far from pleasant, it is sometimes profitable, and when coming from any responsible source merits a candid consideration.

In the last decade the complaint was that the schools did not fit their pupils for the practical duties of life. To remedy this evil, real or supposed, manual training and industrial art education have been introduced. Just now, however, the criticism has reverted to the opposite extreme, and the complaint now is that our schools do not fit our youth for college, at least at an age young enough to encourage them to enter the higher institutions of learning. This complaint, as formulated by the Association of Officers of Colleges in New England, has recently attracted much attention. The remedy for the assumed evil is obviously to be found either in shortening the Grammar School course, or in introducing High School studies into the Grammar Schools, the latter plan being the one favored by the association, which recommends Latin at ten, Algebra at twelve, and Geometry at thirteen, and that room be made for these new studies by reducing as much as may be necessary the time now given to Arithmetic, History, Geography, and

English Grammar. This demand for more Latin and Mathematics has a flavor of medievalism which seems a little strange in the last decade of the nineteenth century; still it is presented with an ability which commands respect. Statistics recently obtained by the New England Association of School Superintendents show that the average age of graduation from the Grammar Schools of the cities and larger towns of New England is 15 years 1 month. The average age in Boston is 15 years 5 months; of Lowell, 15 years 2 months. Add to this age the four, and perhaps five, years which are necessary in which to fit for college in the High School, and it is evident that the average college freshman will be nearly or quite 20 years of age. That this is too old will, I think, be generally conceded. Not many men of 20 will go to college, and if a higher education is to be accepted it must be offered at an earlier age.

The College Officers recommend Latin and the higher mathematics for young scholars in the interest, as they say, of those pupils who are never to go to college. I confess that I am unable to see that Latin and Algebra are likely to be of more use to the great majority of scholars than Geography, the knowledge of the world in which we live; than History, the record of the past which is the only lamp that sheds light upon the future; or than English Grammar, which teaches the use of our own language. For these scholars Manual Training would be, in my opinion, of far more value than Latin. The first two of these studies, however, do not seem to me to be as necessary for those who are to go to college. The average college graduate will probably acquire all the knowledge of Geography he will need in the study of Geology, Botany, Zoology, Ethnology, etc., and a fair knowledge of the history of his own country from the study of constitutional law and social science. If, therefore, these are omitted from his Grammar School course the loss will not probably be felt at all in his later life. Why not, therefore, omit these studies in the last two or three years of the Grammar School course, and put in their place studies which will advance him in his preparation for college? This might be done in the Grammar Schools, but better still, I think, in a separate school to which scholars proposing to go to college might be transferred after completing four of the six years of the Grammar School course. In such a school Latin might be begun the first year, Arithmetic and English Grammar being continued. In the second year Algebra and possibly Geometry would take the place of Arithmetic, while

Latin and English Grammar would be continued. Two years in such a school would prepare the student to begin Greek at the age at which he would ordinarily enter the High School, and ought to bring him to college two years sooner than is now the case. Space is lacking here for any full development of this plan, but I offer it to the Committee and the public in the belief that it is feasible, and worthy of consideration.

The grading of our schools, or, perhaps better, the abuses of our graded school system, have also been bitterly attacked of late. It has been asserted that pupils are advanced by platoons, that all individuality is lost, that the dull scholar is dragged beyond his depth to flounder hopelessly or drop out altogether, that the bright pupil is tied down to the slow rate of progress of the mass until he loses all interest, and perhaps becomes vicious. President Eliot has compared the method of progression of pupils through our schools to the "lock-step" imposed upon criminals, and another eminent educator has declared that "our schools are cursed by the demon of uniformity."

Now it is just as well to admit frankly that there is some ground for these complaints. Our graded system is, I believe, immeasurably better than the lack of system out of which it has grown, but it is not perfect, and the evils with which it is charged are to some degree inherent. Recognizing this fact, it is, therefore, the duty of the teacher to reduce such evils to a minimum. And I wish the Committee and the public to know that this is being done everywhere in the city; and while it would not be safe to assert that no cases of individual hardship exist, it is true that exaggerated statements, like those quoted above, have no application to Lowell schools. There is no school in the city, so far as I know, which does not make special promotions from time to time of individuals, of classes, and parts of classes. And this perpetual process of sifting, with just as much individual teaching as is possible, has the hearty support of the Superintendent, who hopes that each year will see more rather than less of it.

IN MEMORIAM.

Mr. Samuel Bement, with a single exception the oldest teacher in the city in point of service, died January 3rd, after an illness of but a week and an absence from school of only five days.

Mr. Bement was born in 1820, graduated at Middletown (Conn.)

College in 1840, and came to Lowell in 1842 to teach in the Dracut Academy, and afterwards for a short time in the Lowell High School. In 1851 he was elected teacher of the Adams School, one of the two schools then held in what is now the Bartlett School building, and when, in 1856, the two were united to form the Bartlett School he was promoted to the mastership of the new school, and continued in service at the same place until the time of his death. He was an able and successful teacher, a true and loyal friend, and very few men in our city would have been missed more or more regretted.

The best test of the work and life of any teacher is the matured judgment of those who have been his pupils, and the loyalty of the graduates of his school is his highest glory. Judged by this supreme test Lowell has had few teachers who have stood higher than Mr. Bement. His pupils respected and loved him while under his care, and to-day there are hundreds of men and women in our city who cannot think of Mr. Bement without a thrill of gratitude and affection. May similar benedictions follow those of us who remain when we, too, are mustered out!

Teachers, former pupils, and many friends will also, I think, be glad to see honorable mention made here of two former teachers, who have died during the year, though they were not in service at the time of their death.

Miss Nettie E. Carleton, for twenty-five years a teacher in the Edson School, died at her home in Lowell last August. Of her work as a teacher I know nothing from observation, never having visited her school-room, but her long service, and the high regard in which she was held by those who knew her best, are full proofs of her faithfulness. The School Committee recognized her worth by the somewhat unusual compliment of resolutions of respect, although she had ceased to be a teacher some time before her death, and her loss is deeply regretted by many friends.

Mrs. W. M. Gregware, who died at her home in Cambridge last August, was a teacher in the Varnum School from 1882 to 1888, and it affords me pleasure to offer here a tribute to her very exceptional ability and worth as a teacher. Gifted by nature with rare power in controlling a room and interesting her pupils, she added to natural gifts an enthusiasm for her profession and a willingness to do hard work which easily placed her in the front rank of the teachers of the city.

To the teachers of Lowell I desire to return sincere thanks for cordial co-operation. I am glad to bear testimony to the zeal and efficiency of nearly all of them, and have been greatly gratified by the readiness with which they have accepted and acted upon suggestions from the Superintendent, even when, as in most cases, such suggestions were backed by no pretense of authority.

The Truant Officers have been faithful and efficient in the performance of their duties, and have rendered me much assistance in many ways. The tabulated result of their labors is given elsewhere.

Mr. John A. Smith, Assistant Superintendent in fact if not in name, has relieved me of all the detail work in connection with the purchase and delivery of all books and supplies, the collating of bills and salary accounts, and has been of great assistance in many other ways too numerous to mention.

No School Committee, either as a whole or as individuals, could have done more to make the position of Superintendent pleasant and successful than the Committee of 1892. For kindly consideration and generous support I return thanks.

Respectfully submitted,

A. K. WHITCOMB,

Superintendent of Public Schools.

REPORT

OF THE

Special Committee on Manual Training.

The special committee appointed to investigate the subject of manual training in this state with a view to its introduction as a branch of study in the schools of Lowell, respectfully submit the following report:

NECESSITY OF MANUAL TRAINING.

There is a great movement in progress throughout the country to make the education given in the common schools more practical, more useful in the work of every-day life, and therefore more valuable. It is agreed by the highest authorities that the elementary education given in the schools is too theoretical, too abstract, too bookish. It deals with the intellect alone, while the perceptive faculties and the susceptibilities of manual skill are neglected. Too often is the child's mind filled with knowledge in a manner somewhat similar to that in which a storage battery is charged with electricity, but the knowledge so instilled soon makes its escape or at best is of little value. This defect in our school education explains why we have so many graduates who are unable to earn a living when thrown upon their own resources. The man who has been trained to use his hands and his perceptive faculties aright, is usually more successful in the world than the graduate who leaves school with his mind filled with mere book-learning. To remedy this the pupil must be dealt with as a living, active, thinking being, whose faculties are capable of great development; his education must be directed to realities, to things and to deeds, rather than to words, theories, and mere book-learning.

The natural activity and curiosity of children should be utilized for their educational advancement. When children are obliged to sit

still and study branches they do not understand, they lose interest, become weary and unable to make progress. Such mental labor has a tendency to bring on nervous diseases and to enfeeble both body and mind. Educators everywhere are proclaiming the necessity of a change in educational methods, that will, first of all, give the pupil a sound mind in a sound body, that will develop the perceptive faculties, train the hand and form the judgment, while giving clear and practical ideas, with habits of accuracy, perseverance, and self-reliance in overcoming difficulties; a change that will give the pupil a taste for manual labor, and at the same time bring out his mechanical aptitudes so that he can more easily find his proper place in the industrial environment. Such a change can be effected by the judicious introduction of manual training.

SPECIFIC OBJECTS OF MANUAL TRAINING.

The specific objects of manual training are: —

- (1) To develop the perceptive faculties and train the hand in mechanical operations.
- (2) To bring out the mechanical aptitudes and develop the inventive faculty of the pupil.
- (3) To teach him from experience that order, precision, and correctness in labor are essential elements of success.
- (4) To awaken a love of intelligent labor and to lead to industrious habits.
- (5) To render the pupil earnest, practical, and persevering, so that he will not start his life's work on false principles, nor cherish ambitions which must necessarily lead to disappointment.
- (6) To train the judgment by exercise upon principles involving mathematical reasoning and accuracy.
- (7) To inspire an æsthetic sentiment and cultivate the imagination.
- (8) To neutralize the injurious effects produced upon the system by intellectual studies and by the sitting position the child must maintain during ordinary school lessons.

DIFFERENT SYSTEMS AND BRANCHES OF MANUAL TRAINING.

The aims of manual training are fully answered in the primary schools by the kindergarten features there introduced. Other forms

of manual training, such as paper cutting and folding, modelling in clay with free-hand, and, where convenient, mechanical drawing, should next be taken up as preliminaries to tool instruction. After this comes joinery or carpentry, machine-shop work, followed by forging, pattern-making, and machine construction. Other branches, such as designing, may also be introduced if time and opportunity permit. Of course there is no pretence to teach any particular trade, but the pupils master the fundamental principles which form the basis of all trades, and they will consequently make more rapid progress in any trade they may afterwards take up. The exercises, however, are chiefly useful on account of their educational value.

Girls who do not care to take up the rougher operations in wood-work, etc., should be instructed in sewing and cooking, so that none may grow up in ignorance of household duties, or think such duties beneath the dignity of cultured women.

There are two general systems of manual training, each of which has distinctive features to recommend it for adoption. The first, and perhaps the most popular, is Russian shop-work. This is designed to lead classes into a practical knowledge of the fundamental principles of the mechanic arts by instruction in graded exercises adapted to their abilities. The art is taught by educational methods and for educational purposes. It embraces a course in wood-work and iron-work from the simplest to the most complicated operations.

The other system is that of Sloyd, originally devised in Sweden, and now used to some extent in this country. It usually comprises exercises in wood-work alone, and aims at the self-development of the child under proper guidance. The child is required to construct a model on a given scale from a drawing. However many mistakes he makes, he is required to persevere until he succeeds in making a perfect model. This method necessitates individual instruction, and much time for little advancement in the knowledge of general principles, in which the educational value mainly consists. It is useful as a means of teaching perseverance and persistence in overcoming difficulties; but for class instruction on a large scale it is inferior to the Russian system. This is particularly the case where but little time can be given to manual training.

The Sloyd system might be termed construction for the sake of instruction, and the Russian system instruction for the sake of construction. Both demand the greatest accuracy and precision in

detail. The exercises in either system are of value only so far as they render educational service during their performance. During the changing conditions of the work there is constant necessity for devising new means to meet new requirements, and the directive skill and logical processes thus evolved place manual training on a level with mathematical studies as a means of intellectual development.

MANUAL TRAINING IN MASSACHUSETTS CITIES.

The investigations of your committee have been sufficiently extensive to ascertain that in this movement Massachusetts is behind other states, and that Lowell is far behind many other less important cities of this state.

Boston teaches manual training to 2,000 pupils at six centres, and is soon to have a mechanic arts high school. Cambridge has a splendid manual training school for instruction in wood and iron work, equipped by a private citizen at a cost of \$75,000. Springfield has manual training taught in the high school and the eighth and ninth grammar grades at an annual expense of about \$4,500. In addition to this, twenty-eight leading citizens have combined to establish an industrial training school for the benefit of the youth of the city. Waltham has one of the best equipped manual training establishments in this state, and maintains it at a cost of upwards of \$3,000 a year; Salem has manual training taught in the high and grammar schools; Fall River, in the high school only, and this at private expense; Northampton has a species of manual training, somewhat similar to that of Springfield, in the grammar schools; Brockton, in the high school only; Quincy has sewing and cooking; Lawrence, sewing only, but contemplates the introduction of wood-work; New Bedford, sewing and cooking, but is soon to equip a manual training school in a new building; Lynn school board is waiting for an appropriation for manual training; Worcester is also contemplating a similar addition to its school curriculum, and so with Chelsea, Holyoke, and other cities of the state.

Lowell, being the principal manufacturing centre of New England, might be expected to be among the first cities to direct the attention of the children who are to be her future citizens to a practical knowledge of the mechanic arts. This she does not do, and in neglecting such an important duty she is discounting the future

prospects of the rising generation. But cities such as Boston, Springfield, and Cambridge, and the town of Brookline are more fortunate in having public-spirited citizens who have endowed large manual training establishments for the benefit of the public. If there was any institution for manual, technical, or industrial training in our midst, Lowell would not have to look to other cities or other countries for so many of her master mechanics, her designers, engravers, and chemists. If it be not too late to provide a remedy for past remissness, we would suggest to our wealthy citizens the opportunity of conferring lasting benefits on this and future generations by establishing an institution for manual training in our city

MANUAL TRAINING FOR LOWELL SCHOOLS.

But the School Board must not wait for the possible but doubtful crystallization of philanthropy on this point. It should at once set about the work of introducing manual training into the schools. This had better be done on a small scale, under a competent instructor, to begin with, in order that the public may have an opportunity of judging of the educational value of this branch of training before any great outlay be incurred.

Experience has shown that simple exercises in joinery and carpentry can be advantageously introduced about the middle of the grammar school course, and that two hours a week is the shortest time that should be spent with it if good results are to be attained. The pupils in the three highest grades of the grammar school are quite old enough to take up manual training with profit, and in some places pupils in lower grades take up wood-work. In that case the grades above those in which sewing is taught might take up this branch.

It is feared that the children who have to quit school at the age of fourteen years give too much time to ornamental branches and too little to reading, writing, and arithmetic. They cannot afford to take up any elaborate form of manual training because the short time at their command can be more profitably spent at the more essential branches just mentioned. Those who remain longer, however, may take it up with advantage; and experience has shown that the two or three hours a week spent at manual training will not, as a rule, retard the pupil's progress in other branches. The gradu-

ates of the grammar schools could proceed to a more advanced course of manual training in the high school.

In order to introduce manual training into the schools generally, it would be necessary to draw up a course of exercises properly graded to be incorporated with the school curriculum. But here two important points are to be decided: (1) At what stage in the grammar school course should manual training be introduced? (2) How many hours a week should each class be allowed to spend at the work?

There are two methods of providing manual training for all the schools requiring it. The first is to have a large manual training establishment in a central location where all the pupils could be instructed in rotation; the second, to have a manual training room in connection with each school. Either of these methods would be too expensive for a city like Lowell; but an economical plan for accommodating all the schools would be to divide them into a number of groups, and have a manual training room for each group. If such a plan were adopted the high and grammar schools might be accommodated by three or four manual training-rooms, located at the points most convenient for the pupils. One room equipped for from twenty to thirty pupils would serve each group of schools, and the classes could be taught in rotation.

But to meet the educational exigencies of the case as far as practicable without undertaking tedious and expensive experiments, your committee has decided to recommend the equipment of one large room, say in the Green School, with accommodations for fifty pupils. These can be drawn from the high and grammar schools as the committee may see fit, or admission to the manual training classes may be made the reward of diligent work. Let a thoroughly competent teacher be procured to organize and direct the school, so that all who take an interest in this branch of education may have an opportunity of judging of its merits from personal observation. As soon as the results shall have been seen by the School Board, the City Council, and the public at large, there will be no need of argument to urge the advisability and necessity of extending the system so as to include the pupils of the high school and all the higher grammar grades. Such a room can be equipped for about \$1,000, while a competent teacher might be procured for from \$1,000 to \$1,200 a year.

The instruction of school children in manual training for the objects here stated cannot conflict with the interests of labor, inasmuch as no particular trade is taught. On the contrary, training in manual skill is highly calculated to remove whatever distaste may exist for manual labor, while inspiring respect for intelligent workmen. Furthermore, a system that will train the children of the wealthy in manual operations at the same bench with those of the poor must eventually lead to more cordial relations between employer and employee, and tend to the advantage of both. Some advocates of manual training go so far as to assert that by inuring to habits of industry, it prevents idleness and the acquisition of vicious habits which generally result therefrom. Thus manual training would produce better and more prosperous citizens while diminishing the number of idlers and criminals. But if it should bring but half the good results claimed for it by educators of experience it would still be a subject of very great importance, and should be introduced into the schools of our city without delay. We are confident that the City Council will not refuse an appropriation for a branch of training that would prove so beneficial to the rising generation and the community at large.

EDWARD GALLAGHER,
PATRICK KEYES, JR.,
WILLIAM H. LATHROP, M. D.,
Committee.

REPORT OF THE TRUANT COMMISSIONERS FOR THE YEAR 1892.

1892.

	Absentees.	Truants.	Working without certificate.	Wandering about the streets.	New scholars.	Juvenile offenders.	Total number cases investigated.	Arrested.	Sentenced to Reformatory School.	Placed on probation.	Visited second time.	Visited third time.	Working certificates issued— (14 to 16 years of age).	Working certificates approved— (13 to 14 years of age).
January.....	140	13	..	2	1	4	160	4	2	2	6	4	138	6
February.....	108	47	2	7	3	3	170	7	3	4	9	4	104	..
March.....	116	33	..	6	1	..	156	3	2	1	4	2	102	3
April.....	104	36	..	6	2	1	140	13	5	8	5	2	100	17
May.....	181	72	..	3	2	..	258	6	3	3	8	2	172	16
June.....	90	46	1	2	4	..	143	13	7	6	15	8	147	5
July.....	....	..	..	..	..	..	....	..	..	..	..	..	304	10
August.....	....	..	..	..	..	..	....	..	..	..	..	..	118	2
September.....	89	17	1	3	8	5	123	1	1	..	4	1	183	4
October.....	161	79	5	19	1	18	283	21	9	11	14	9	168	2
November.....	97	23	1	13	..	..	134	9	3	6	4	6	127	7
December.....	78	38	..	14	..	5	135	15	7	8	9	7	55	2
Totals.....	1164	404	10	75	22	36	1711	92	42	49	77	45	1747	74

Sewing in the Schools.

The six lower classes of the Grammar Schools receive instruction in sewing for one hour each per week. The special teacher usually stays with each class for forty-five minutes, and then leaves the regular teacher to finish the lesson. The course of instruction must necessarily be very limited, but it embraces all the first principles of the art of sewing, and if followed successfully will enable the pupils to perform all the ordinary operations of plain sewing. The course laid out by the teacher for each of the three years is as follows:—

FIRST YEAR.

ELEVENTH AND TWELFTH CLASSES.

Folding and cutting of cloth.	Drawing on paper.
Proper length of thread.	Practice on cloth.
Threading of needles.	Back-stitching.
Use of thimble.	Over-casting.
Making knots.	Over-seaming on folded edges.
Proper position of pupil for sewing.	Hemming.
Position of work.	Use of rule.
Position of needle.	Folding and sewing paper and cloth.
Position drills.	Beginning, joining, and fastening of
Stitches.	thread taught in connection with
Basting.	each stitch.

Articles Made. — Small bags, plain aprons.

SECOND YEAR.

NINTH AND TENTH CLASSES.

Review.	Patch of print matching design.
Over-seaming on selvages.	Fell seam. Half bias.
Hemming wide and narrow hems.	Running stitching.
Patching.	Darning—
Patch cut from paper.	On cotton cloth.
Patch cut from cotton cloth.	On fine cashmere with silk.

Articles Made. — Pillow-cases, plain aprons.

THIRD YEAR.

SEVENTH AND EIGHTH CLASSES.

Instruction in using cloth in regard to length, width, and bias.	Button-holes.
Review.	Sewing on buttons.
Gathering and putting on bands.	Drafting pattern of undergarment, each pupil drafting from her own measurements.
Stocking darning.	Cutting out of garment.
Putting in gussets.	
<i>Articles Made.</i> — Various garments.	

The popularity of sewing in the schools indicates how much the people appreciate the instruction of their children in the useful arts. It is to be hoped that ere long not only will sewing be taught on a more extensive scale, but cooking will also be taught to the girls in the Grammar Schools at least. These branches are to the girls what manual training is to the boys; and it is for the best interests of the schools and the good of the community that the education of both sexes be directed as far as possible with a view to fitting them for the active duties of life.

EDWARD GALLAGHER,
PATRICK KEYES, JR.,
GEORGE M. HARRIGAN,
WALTER COBURN,
FRED WOODIES,

Committee.

APPENDIX.

A.

EXERCISES AT THE LAYING OF THE CORNER-STONE OF THE NEW HIGH SCHOOL BUILDING.

The corner-stone of the new High School building, between Anne and Kirk Streets, was laid at 11 o'clock Wednesday forenoon, June 29, 1892, with appropriate ceremonies. The young ladies of the High School graduating class of 1892 met at Huntington Hall with Principal Coburn, and were received at the City Government building by the Lowell High School Battalion, Major Donald Campbell commanding, and escorted to the northeast corner of the building lot on Kirk Street, where the corner-stone rests. The Battalion was formed on the street, in front of the corner-stone, and the young lady graduates occupied settees on the flooring laid directly behind it, the young gentlemen graduates standing at one side. The School Board and various departments of the City Government were well represented. On the platform were C. C. Chase, J. S. Russell, Judge Hadley, Hon. C. D. Palmer, Rev. R. A. Greene, S. W. Stevens, Councilman Marston, Superintendent Whitcomb, Walter Coburn, Supervisor Smith, Alderman Varnum, Alderman Cassidy, Superintendent Bray, and other public officials and friends of education. Mr. Walter Coburn, Chairman of the High School Committee, presided, and the ceremony of laying the stone was participated in by Major Campbell, Adjutant Pollard, and Miss Paradis as representatives of the graduating class. The following was the programme.

PROGRAMME.

1. INVOCATION.

REV. R. A. GREENE.

2. SINGING. "Hail, Columbia."

GRADUATING CLASS, 1892.

3. LAYING OF THE CORNER-STONE. Remarks—ALDERMAN C. F. VARNUM. Participants—DONALD C. CAMPBELL, MAUD E. PARADIS, HARRY G. POLLARD, Graduating Class of 1892.

4. REMARKS.

SUPT. A. K. WHITCOMB.

5. ADDRESS.

SOLON W. STEVENS, ESQ.

6. AMERICA.

GRADUATING CLASS, 1892.

7. BENEDICTION.

REV. R. A. GREENE.

ALDERMAN VARNUM'S REMARKS.

Mr. Chairman:—

The corner-stone of the new Lowell High School is in readiness to be laid. I now, in behalf of the Committee on Lands and Buildings, transfer the laying of the stone to the graduating class of this year, 1892.

MAJOR CAMPBELL'S ADDRESS.

Mr. Chairman, Schoolmates, and Friends:—

It is a source of gratification and pride to the class of '92 that they are called upon to assist at this important ceremony. The old building has been an important factor in the growth and general prosperity of the city. It served its time, and now gives way to the more roomy and convenient building, the erection of which we now formally begin. We congratulate those who are to follow us on the more convenient building they are to enjoy. May peace and prosperity bless our city and this building, of which we now lay the corner-stone.

Reading of the list of the contents of the copper box in the corner-stone by Adjutant Pollard:—

School Directory of 1892.
School Report of 1891.
Report of Superintendent of Public Buildings, 1391.
Report of Trustees of City Library, 1889-90-91.
High School Review of December, 1891, and June, 1892.
Lowell, Past, Present, and Prospective.
History of Lowell, by Charles C. Chase.
History of Tyngsborough, by Charles C. Chase.
Statistics of Manufactures of Lowell, 1892.
Semi-Centennial of Town of Lowell.
Semi-Centennial of City of Lowell.
Teachers and Pupils of High School, 1892.
Programme of Eleventh Annual Prize Drill.
Order of exercises of Lowell High School, 1892.
Graduating exercises of Lowell High School, June 29, 1892.
Lowell Morning Times, June 29, 1892.
Lowell Evening Star, June 28, 1892.
Lowell Morning Mail, June 29, 1892.
Wednesday Vox, June 22, 1892.
Saturday Vox, June 25, 1892.
Lowell Daily Citizen, June 21, 1892.
Lowell Daily News, June 25, 1892.
Lowell Weekly Sun, June 25, 1892.
Lowell Weekly Journal, June 24, 1892.
Lowell Daily Courier, June 27, 1892.
Municipal Register, 1892.
Lowell Directory, 1892.
Auditor's Report, 1891.
Report of Inspector of Milk and Vinegar, 1891.
Inaugural Address of the Mayor, 1892.
Salaries of City Officers, 1892.
Report from Committee on Lands and Buildings.
Contractors' names and bids for High School.
Report of Trustees of Lowell Cemetery, 1892.
Report of Water Board, 1891.

SUPERINTENDENT WHITCOMB'S REMARKS.

The occasion which brings us here to-day is an object lesson which teaches by deeds rather than words, and leaves but little to be said. What we say here the city will little note nor long remember; what is done here will, we trust, be more enduring, not only as the foundation for a structure of brick and stone of use to those who may be within it, but as a symbol and monument of that which we deem fundamental and of most importance in the civilization of the age.

Fifty-one years ago the city of Lowell, then little more than a large village, dedicated a High School building fine enough to compare favorably, not only with the best houses within her own limits, but more than favorably with the finest buildings to be found elsewhere in cities of her size. That this house, which was then the just occasion of so much pride, has long since been outgrown, and has lately been torn down to make room for a larger one, was not the fault of the building, which was constructed upon honor, from turret to foundation stone, but is simply a tribute to the marvelous growth of our city, which has developed from the small beginnings of those early times to a compact city of more than 80,000 people. If, therefore, we are now constrained to "build us more stately mansions," if not for the soul, as the poet has it, at least for the next best thing, the training of the mind, it is not at all a matter of regret, but rather of the heartiest rejoicing.

I congratulate you, therefore, members of the graduating class, that to you has come the high honor, not likely, we trust, to be soon duplicated by any of your successors, of laying this corner-stone. I congratulate you, members of later classes, that to you has come the hope of finishing your course in a new building, far finer, and far better adapted to your needs, than has been occupied by any of your predecessors. I congratulate you, teachers of the High School, who are now doing such faithful and successful work under such cramped and discouraging conditions, that here at last the first stone is laid of the building which is to so enhance your comfort and so broaden your field of usefulness. I congratulate you, citizens of Lowell, not only upon the prospect of a building which shall be an ornament to your streets, and a matter of just pride to every citizen; not only upon the better advantages such a building will give for the education of your children,—though these are matters of pre-eminent importance,—but most of all upon the fact, of which the noble structure to be erected here is to stand as a proof, that you have in your free public schools a system of education commensurate with your needs, which commands your fullest confidence, and enlists your hearty support. For it is fair, I think, to assume that you would not tax yourselves \$200,000 to erect a new building dedicated to the higher education if you did not believe thoroughly, not only in the value of a liberal education in itself, but also in our American system of schools, as the best possible means by which it may be obtained.

And this belief is justified by the opinion of a large majority of the observers best qualified to judge. If I were to contrast our schools with the schools of other countries, my opportunities for comparison have been so limited that my opinion would be of little value; but when I assert, as I am privileged to do, upon the authority of such men as Dr. Brooks of Philadelphia, president of the National Superintendents' Association, Mr. Strous, New York Commissioner of Education, and Mr. Prince of our own State Board, all of them trained observers who have spent much time in the best schools of England, France, and Germany — when, I say, I assert upon the authority of such men as these that for our American boys our American schools are the very best in the world, I have a right to expect to be believed. And, indeed, how could it well be otherwise? Our schools are the ripened fruit of our free institutions and our best civilization. Conceived at first in the wise forecast of the heroes who came over in the *Mayflower*, they have been improved by the best thought of the best men of our country ever since. Bound by no traditionalism, eclectic in the sense of taking and adapting to their own use the best that other nations could offer, they have grown with the growth of the nation and improved with the civilization of the age.

Apply this same thought to local conditions. Call the roll of the best and strongest men of our city for the last half-century, and you shall find that a very large proportion have at some time served upon the School Committee. To say that their efforts have been crowned with no success, is to impugn alike their judgment and the ability and faithfulness of the teachers whom they have appointed. This is not, of course, to say that our schools are perfect — far from it. They are the most democratic institutions in existence, and they share the faults as well as the virtues which always appertain to a government of the people by the people. But, faulty or not, they are still *our* schools; their very faults are the faults we give them, and we are bound by every principle of honor and patriotism, as well as of self-interest, to stand by them. And they are improving. I could mention twenty changes for the better in as many years. Committee and teachers are interested, progressive, enthusiastic. We front the sunrise, and the light of hope flushes our faces. I congratulate you, therefore, upon the good schools you have had in the past, upon the better schools you have in the present, and upon the still grander things we hope for in the future, and of which we expect our new High School building to be a worthy symbol.

MR. STEVENS' ADDRESS.

Mr. Chairman, Scholars, and Fellow-Citizens:—

The occasion which has drawn us together this morning is an interesting one to every citizen of Lowell. But to those of us who are Lowellians by birth, who have in early years passed through the different grades of our Primary and Grammar Schools, and who have afterward received the benefit of courses of study in the Lowell High School, this is a moment of special significance.

It would be exceedingly pleasant, at this time, to awaken in memory some of the scenes of by-gone days passed within the area of the old school building, under the guidance of faithful and able instructors, some of whom have passed away, and some of whom, we are glad to say, are still with us to be loved and honored — and may the day be far distant when the fatal asterisk shall be set against their names! It would be interesting to recall the friendships formed here at that period in life, when the mind receives its first influences of the duties and responsibilities belonging to manhood and womanhood. It would be instructive to listen to the varied experiences, and hear the testimony of those whose ambition was first aroused, whose minds were quickened, and whose lives, whether humble or conspicuous, have been in a great degree shaped by the instruction faithfully given, though perhaps unappreciated at the time, in the old school-house which recently stood on the spot where we are now assembled. It would be laughable, perhaps ridiculous, but withal quite enjoyable, to tell how we struggled with the old *binomial theorem*, and the *pons asinorum*; how we wrestled with the Greek verbs in *mí*; how our youthful breasts were inflated with triumphant pride when we first twisted out the meaning of Virgil's *arma virumque cano, Troje qui primus ab oris*, etc. If Mr. Coburn is tempted to laugh at my old-fashioned pronunciation of these words, he must remember that David Scobey and Mr. Chase taught me Latin and Greek long before the present prevalent *Chinese* mode of pronunciation was introduced.

However profitable and enjoyable all this might be, it is more in accordance with my tastes, in the few moments allotted to me, to speak by way of congratulation that soon more convenient and commodious quarters will be furnished for the continuance of the excellent work done in our High School. We have just laid with simple and appropriate ceremony the corner-stone of a building which, for the legitimate uses to which it will hereafter be consecrated, is second in its influence only to the house of God.

The Lowell High School is the culmination and crowning point of our American system of public education, as applied to our community. It had its origin, like most of the High Schools of the commonwealth, during the last part of the first third of the present century, when, notwithstanding the diversity of opinion relative to matters social, moral, and political, there was unanimity of sentiment on this point at least: that the citizenship of a free nation must be intelligent, and that education is necessary to develop that intelligence.

When Chancellor Kent publicly stated that "the man who sends his son uneducated into the world, not only deprives the community of a useful citizen, but bequeaths to it a nuisance," he not only expressed his private opinion, but proclaimed a widely-accepted doctrine, which is as true to-day as it was then. As a result of the determination of the people of that time to promote the cause of education, and to afford facilities to the children of both the poor and the wealthy for studying subjects beyond the reach of the elementary schools, the state system, which had already

been established, was improved and enlarged to meet the wants of growing cities, and High Schools, with courses of study similar to and modeled upon the curriculum of the New England academy, were inaugurated, not as distinct and separate schools, but to occupy a place in organic connection with the Primary and Grammar Schools, and here in Massachusetts mandatory legislation was enacted for their establishment.

During the fifty years, more or less, of the existence of our High School, it has been a power for good in this community, in the line of the development of upright, intelligent citizenship, the half of which can never be told. We have it on the highest authority that the graces of Christian character are faith, hope, and charity; but that the greatest of these is charity. In the educational system, wisely planned and cherished by the state for our moral and social welfare, we have the Primary, the Grammar, and the High School; but for far-reaching, beneficent, and permanently healthful influences the High School, in my judgment, is the greatest of these. Its aim is not to impart religious instruction, nor to discipline the mind in the tenets of any particular creed. Its object is to train our youth morally and intellectually, so that they may wisely assume and faithfully discharge the duties of intelligent, virtuous citizenship. It takes the child at that time of life when the reflective faculties are beginning to work with activity, and trains him to control his mental powers, whereby he can pursue continuous lines of thought; it teaches him the art of generalization; it opens to his mind large views of the realm of knowledge, and gives to his intellectual character a grace of culture which the merely elementary schools can not and do not pretend to impart; and, in addition to this, it is of special importance in moral training, for by the influence of conscientious and superior teachers upon the mind at this formative period of life, there is developed in the pupil a high sense of honor, and a keen sense of duty and self-control. Such training as this is necessary in every community, and especially in an industrious and thriving municipality, with its heterogeneous population like ours.

One great problem which confronts us to-day is what to do with this vast tide of immigration which is rolling in upon our shores at the rate of a million and a half annually. My thought is that the public schools hold at least one key to the solution of the problem; for by their potent influence, so far as mental endowments go, they shall train the children of the stranger into the dignity and loyalty of American citizenship. It was such training as this which John Adams had in mind when he said: "The instruction of the people in every kind of knowledge that can be of use to them in the practice of their moral duties as men, citizens, and Christians, and of their political and civil duties as members of society and freemen, ought to be the care of the public, and all who have any share in the conduct of affairs." This, too, was the thought which Thomas Madison had in mind when he said that "learned institutions throw that light over the public mind which is the best security against crafty and dangerous encroachments on the public liberty." In order to meet the

duties and responsibilities of these wonderfully busy times in which we are living, we need to know something of the principles and philosophy of life, and the mind of the child must be trained so as to be able in some measure to grasp those principles. It is along this line of work that the High School finds its place; for while it is the province of the elementary schools to teach the scholar to observe, it belongs to the High School to teach him to think and to be conscientious.

Let us, then, congratulate each other this morning that we are soon to have spacious and elegant accommodations, in which to continue the good work done in our High School by its able and efficient corps of teachers. As able, conscientious instructors they are entitled to our gratitude and respect. Let those who have charge of the administration of its affairs not rest satisfied until the Lowell High School stands second to none in the commonwealth for the breadth and thoroughness of its instructions. Let it be equipped with all the paraphernalia which educational methods demand. Let its military, its manual, its industrial and esthetic training receive that proportion of attention which wisdom and experience may dictate. Let the classics and the sciences be taught together, and by no means let the evening work of the school be neglected, for its fruits are seen on every side. Let this school be kept free from the entanglements of partisanship and prejudice. Let no one presume to impeach its integrity. Let the child of the Israelite and the Greek, of the Protestant and the Catholic, of the poor man and the rich man, sit side by side together, enjoy the same advantages, and be the recipients of the one favor granted to all, and that is a chance for each to do his best. Let it be in truth a free, common, public school. Let it be as unsectarian in character as the flag which floats above it, whose ample folds are blown by breezes from an unsectarian heaven. And so with God's blessing may scholar, teacher, and citizen take up the duties of life as the years roll by, remembering that we are all members of a prosperous community in the grandest of commonwealths, and in a country the most splendid beneath the shining sun; ever mindful of the truth of Lord Bacon's maxim, that "the learning of the few is despotism; the learning of the many is liberty; and intelligent, principled liberty is fame, wisdom, and power."

"The blue arch above us is Liberty's dome —
 The green turf beneath us, equality's home;
 But the school-room to-day is humanity's friend.
 Let the nation, the flag, and the school-house defend.
 'Tis the school-house that stands by the flag —
 Let the nation stand by the school.
 'Tis the school-bell that rings of our liberties old;
 'Tis the school-boy whose ballot shall rule."

B.

ROLL OF TEACHERS.

Giving Name, Grade, Residence, Date of Election, and Salary.

HIGH SCHOOL.

BROADWAY.

FRANK F. COBURN, Principal, <i>Science</i> , 139 E. Merrimack St.,	1880	\$2,500
FRANK B. SHERBURNE, <i>Language</i> , 58 Dover St.	1883	1,900
CYRUS W. IRISH, <i>Science</i> , 96 Mt. Vernon St.	1885	1,900
MARY A. WEBSTER, <i>Language and Mathematics</i> , 17 Varney St.,	1860	900
MARIETTA MELVIN, <i>Language</i> , 381 Merrimack St.	1859	800
ELIZABETH MCDANIELS, <i>Language and Literature</i> , 162 Stack- pole St.	1868	800
HARRIET C. HOVEY, <i>Language</i> , 12 Fourth St.	1870	800
CHARLOTTE E. DRAPER, <i>Language and Science</i> , Belmont Ave., Cor. Talbot St.	1870	800
ALICE J. CHASE, <i>Science and Mathematics</i> , 158 Stackpole St. .	1877	800
SUSIE L. D. WATSON, <i>Mathematics and English</i> , 31½ Dutton St.,	1885	800
ADELAIDE BAKER, <i>Language</i> , 98 Sixth St.	1885	800
JENNIE L. ALLEN, <i>Mathematics and English</i> , 411 Middlesex St.,	1885	800
MAUD HADLEY, <i>Mathematics and English</i> , Cumberland Road,	1887	800
EMMA L. BRADLEY, <i>Mathematics</i> , 347 Westford St.	1890	800
GERTRUDE A. RODLIFF, <i>Mathematics</i> , So. Chelmsford, Mass.,	1890	800
MARIETTA CASSIDY, <i>Language</i> , Mt. Grove St.	1890	800

BARTLETT GRAMMAR SCHOOL.

CORNER HANCOCK AVENUE AND CLARK STREET.

CYRUS A. DURGIN, Master, 70 Bartlett St.	1891	\$1,300
MARY B. KENT, 1st and 2d, 428 Merrimack St.	1859	600
ABBIE E. FRENCH, 3d and 4th, 259 Beacon St.	1874	600
BELLE F. BATCHELDER, 5th and 6th, 7 Arlington St.	1883	600
BELLE A. PRESCOTT, 7th and 8th, 29 Mt. Washington St. .	1878	600
FRANCES M. TALBOT, 9th, 29 A St.	1882	600
MARY I. HOWE, 10th, 54 Methuen St.	1873	600
AMY L. TUCKE, 11th, 92 Fletcher St.	1880	600
LOLA CHENEY, 12th, 142 Worthen St.	1882	600

MORRILL SCHOOL.

COMMON AND ADAMS STREETS.

ELLEN F. COUGHLAN, Principal, 2d and 3d, 155 Cross St., .	1853	\$650
NELLIE M. BROWN, 1st, 158 Fletcher St.	1865	600

ANNIE M. COURTNEY, 4th and 5th, 8 Lagrange St. . . .	1887	600
CHARLOTTE E. BROWN, 6th, 158 Fletcher St. . . .	1870	600

SCHOOL STREET SCHOOL.

SCHOOL STREET, BETWEEN PAWTUCKET AND BOWERS STREETS.

EUGENIA L. HOGAN, Principal, 1st, 2d, and 3d, 14 Gold St. . .	1889	\$625
FANNIE A. HARDY, 4th, 5th, and 6th, 10 Mass. Corp. . . .	1890	600

CROSS STREET SCHOOL.

CROSS STREET, BETWEEN WILLIE AND MT. VERNON STREETS.

SARAH E. SCALES, Principal, 1st, 2d, and 3d, 10 Ralph St. . .	1866	\$650
ELLEN M. WHITE, 4th and 5th, 22 Gates St.	1863	600
ETHEL G. WHEELER, 5th and 6th, 185 Moody St.	1889	600

BUTLER GRAMMAR SCHOOL.

GORHAM STREET.

CORNELIUS F. CALLAHAN, Master, 5 Fenwick St.	1884	\$1,900
ALBERTIE T. LANE, 1st and 2d, 40 Walnut St.	1889	600
LAURA F. HOWE, 3d and 4th, 166 Stackpole St.	1856	600
NELLIE F. KEEFE, 5th and 6th, 41 Cedar St.	1879	600
NELLIE F. MURPHY, 7th and 8th, 21 Sherman St.	1878	600
MARGARET T. MCCARTHY, 5th, 6th, 7th, and 8th, 261 Market St.	1890	600
ANASTASIA C. CORBETT, 10th and 11th, 32 Highland St. . .	1887	600
KATIE E. KELLEY, 10th and 11th, 97 Moore Street	1883	600
DELIA T. BRADY, 11th and 12th, 375 Central St.	1877	600
MARY L. MCSORLEY, 11th and 12th, 20 Ash St.	1879	600
MARY I. DONLAN, 7th, 8th, 11th, and 12th, 218 Gorham St. .	1890	600
AGNES L. DONAGHUE, 9th, 10th, 11th, and 12th, 16 Royal St.,	1887	600

LYON STREET SCHOOL.

CORNER LYON AND CENTRAL STREETS.

ALICE T. LEE, Principal, 1st and 2d, 1 So. Walker St. . . .	1878	\$650
ANNABEL COSTELLO, 3d and 4th, 203 Nesmith St.	1888	600
MARY J. MCCARRY, 4th and 5th, 23 Mead St.	1881	600
NELLIE A. HUNT, 6th, 48 Elm St.	1884	600

CARTER STREET SCHOOL.

CARTER STREET.

ISABELLE T. VINALL, Principal, 1st and 2d, 11 Simpson Pl.,	1873	\$650
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GEORGIA A. HARNDEN, 3d and 4th, Cor. Sherman and Pleasant Sts.	1885	600
CORNELIA M. DAVIS, 5th and 6th, 40 Rock St.	1871	600

AGAWAM STREET SCHOOL.

CORNER AGAWAM AND BARRINGTON STREETS.

MARY McLAUGHLIN, Principal, 1st and 2d, 234 Lawrence St.	1879	\$650
ANNIE M. LEE, 3d and 4th, 1 So. Walker St.	1885	600
MARY A. FAY, 5th and 6th, 94 Stackpole St.	1889	600

LONDON STREET SCHOOL.

CORNER LONDON AND WEST STREETS.

LIZZIE R. MAGUIRE, Principal, 1st and 2d, 23 Lyon St.	1884	\$650
ROSE E. McVEY, 3d and 4th, 62 Gorham St.	1887	600
MINNIE F. HILL, 5th and 6th, 203 Thorndike St.	1887	600

WEED STREET SCHOOL.

CORNER GORHAM AND WEED STREETS.

MARY B. MCGOVERN, Principal, 4th, 5th, and 6th, 13 Pearl St.	1886	\$625
AGNES M. FOLEY, 1st, 2d, and 3d, 31 Newhall St.	1887	600

LOWELL TRAINING SCHOOL.

CHARLES STREET AND LAWRENCE STREET.

JULIA M. DEWEY, Principal, 12 Middlesex St.	1888	\$1,900
KATHARINE T. KEYES, 1st Assistant, 213 Market St.	1889	900
ALICE M. CLARK, 2d Assistant, 46 Chapel St.	1878	800
MABEL EWINGS, 3d Assistant, 102 Stackpole St.	1891	800
HELEN M. SHEAN, 88 Lawrence St.	1891	500

KINDERGARTEN.

ANNIE W. DEVEREAUX	1892	\$800
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CENTRAL STREET SCHOOL.

CENTRAL STREET, OPPOSITE HUDSON STREET.

ELIZA COWLEY, Principal, 1st and 2d, 178 Lawrence St.	1857	\$650
CHARLOTTE McDANIELS, 3d and 4th, 162 Stackpole St.	1878	600
KATIE J. LAWLER, 4th and 5th, 104 High St.	1885	600
LILLA J. GREENHALGE, 6th, 83 Nesmith St.	1871	600

CHAPEL STREET SCHOOL.

CHAPEL STREET, OPPOSITE POLLARD STREET.

KATIE E. MCOWEN, Principal, 1st, 2d, and 3d, 30 Linden St.	1882	\$625
MARY A. FARNHAM, 4th, 5th, and 6th, 28 Robinson St.	1887	600

COTTAGE STREET SCHOOL.

CORNER COTTAGE AND CHAPEL STREETS.

ALICE A. MASTERSON, 1st, 2d, and 3d, Oaklands . . .	1892	\$450
MAGGIE A. HARRIHAN, 4th, 5th, and 6th, 20 Marshall St. . .	1882	600

AMES STREET SCHOOL.

CORNER LAWRENCE AND AMES STREETS.

AMANDA M. HADLEY, Principal, 1st and 2d, 60 Lincoln St. . .	1870	\$650
KATIE F. MURPHY, 2d and 3d, 1 Carter Pl.	1885	600
MARY E. DREW, 4th and 5th, 28 Wamesit St.	1868	600
LIZZIE M. HADLEY, 6th, 49 Bartlett St.	1869	600

CHARLES STREET SCHOOL.

CHARLES STREET, BETWEEN GORHAM AND CHAPEL STREETS.

ALICE T. OWENS, Principal, 1st and 2d, 45 Walnut St. . . .	1878	\$650
ELLA E. GARDNER, 3d, 6 Lombard St.	1871	600
ANNIE E. SLAVIN, 4th and 5th, 125 South St.	1887	600
MARGARET J. KING, 5th and 6th, 172 Stackpole St. . . .	1891	500

EDSON GRAMMAR SCHOOL.

HIGHLAND STREET.

C. W. BURBANK, Master, 92 Bowers St.	1872	\$1,900
FRANCES M. WEBSTER, 1st and 2d, 17 Varney St.	1873	600
ROSALIE T. BURNS, 3d and 4th, 174 Stackpole St.	1878	600
CARRIE A. PAUL, 5th and 6th, 9 Huntington St.	1891	500
CARRIE STONE, 6th and 7th, 13 Cottage St.	1885	600
SARAH J. CROSBY, 9th and 10th, 151 Gorham St.	1868	600
BERTHA M. ROWLANDSON, 10th, Oaklands	1891	500
FANNY A. SCRIPTURE, 8th and 9th, 269 Central St.	1873	600
MARY L. KEITH, 7th and 8th, 27 Osgood St.	1890	600
MARY A. BALCH, 10th and 12th, 130 Appleton St.	1865	600
KATE J. HAYES, 12th, 13 Floyd St.	1879	600
MARGIE F. MARREN, 12th, 86 Mt. Vernon St.	1886	600

ELIOT SCHOOL.

CORNER FAVOR AND SUMMER STREETS.

ELLEN A. STILLINGS, Principal, 4th and 5th, 107 Howard St. . .	1875	\$650
ELLEN A. CORBETT, 1st and 2d, 32 Highland St.	1878	600
NELLIE T. O'GRADY, 2d and 3d, 59 Newhall St.	1881	600
WINNIFRED HAGGERTY, 6th, 16 Huntington St.	1884	600

HOWARD STREET SCHOOL.

HOWARD STREET, BETWEEN CHELMSFORD AND HALE STREETS.

ELLEN A. BRIDGE, Principal, 1st and 2d, 54 Tyler St.	1857	\$650
MARION E. GREENE, 3d and 4th, 113 Howard St.	1884	600

GRAND STREET SCHOOL.

(Howard Street Annex.)

GRAND STREET, BETWEEN WESTFORD AND MIDDLESEX STREETS.

JENNIE M. BENNETT, 5th, 246 Westford St.	1885	\$600
MINNIE A. WILLSON, 6th, Cor. Hale and Cambridge Sts.	1887	600

GREEN GRAMMAR SCHOOL.

MERRIMACK STREET.

A. L. BACHELLER, Master, 24 Arlington St.	1874	\$1,900
RUTH B. BAILEY, 1st and 2d, 210 Moody St.	1871	600
CLARA A. HANAFORD, 3d and 4th, 176 School St.	1869	600
LIZZIE A. NOLAN, 5th and 6th, 74 Mt. Vernon St.	1876	600
JENNIE E. FAY, 7th and 8th, 94 Stackpole St.	1891	500
KATE F. CASSIDY, 9th and 10th, Mt. Grove St.	1883	600
LENA A. GOOKIN, 9th and 10th, 5 Walden St.	1880	600
CARRIE A. MILES, 8th and 11th, 12 Middlesex St.	1882	600
ELLA J. CARLETON, 11th and 12th, 316 Bridge St.	1882	600
KATE F. MCCARTHY, 11th and 12th, 261 Market St.	1889	600

KIRK STREET SCHOOL.

CORNER KIRK AND LEE STREETS.

ELIZA A. DAVIS, Principal, 1st, 2d, and 3d, 40 Rock St.	1881	\$625
LAURA H. PALMER, 4th, 5th, and 6th, 167 Bridge St.	1882	600

CABOT STREET SCHOOL.

CORNER CABOT AND FORD STREETS.

NELLIE T. GILDAY, Principal, 5th and 6th, 14 Varney St.	1886	\$650
MARTHA A. NEAL, 5th and 6th, 10 Dodge St.	1847	600
MARY J. MURPHY, 3d and 4th, 34 Jefferson St.	1887	600
ABBIE V. WHEELER, 1st and 2d, 185 Moody St.	1879	600

CHEEVER STREET SCHOOL.

CHEEVER STREET.

IDA J. CLARK, Principal, 3d and 4th, 157 Moody St.	1887	\$650
KATHERINE T. LENNON, 1st and 2d, Cor. Bowers and School Sts.	1885	600
MARY E. MEEHAN, 5th and 6th, 129 Worthen St.	1891	500
ANNA A. SARGENT, 5th and 6th, 97 Liberty St.	1864	600

WORTHEN STREET SCHOOL.

WORTHEN STREET, BETWEEN MARKET AND BROADWAY.

MARY L. HILL, Principal, 1st and 2d, 126 Worthen St. . . .	1858	\$650
ESTHER V. GREEN, 3d and 4th, 132 Cross St.	1889	600
MARY J. ALGER, 5th and 6th, 9 Tyler St.	1868	600
MARY R. MARREN, 5th and 6th, 86 Mt. Vernon St. . . .	1890	600

HIGHLAND GRAMMAR SCHOOL.

WEST PINE STREET.

CHAS. W. MOREY, Master, 14 Belmont St.	1880	\$1,900
MARY F. FOSS, 1st and 2d, 101 Stevens St.	1891	500
FLORA I. MOFFITT, 1st and 2d, 43 Tyler St.	1887	600
ABBIE F. WOODWARD, 3d and 4th, 73 Branch St. . . .	1869	600
ESTELLE L. WHITNEY, 1st and 2d, 101 Chapel St. . . .	1885	600
ADELAIDE F. BENNETT, 5th and 6th, 126 Walker St. . .	1882	600
NELLIE A. COBURN, 5th and 6th, 21 So. Walker St. . .	1886	600
LUELLA A. WARDWELL, 7th and 8th, 30 School St. . .	1870	600
MINNIE C. GRAY, 7th and 8th, 78 Liberty St.	1890	600
FANNIE M. CLARK, 9th and 10th, 30 School St. " . . .	1874	600
EDITH L. MONROE, 9th and 10th, Billerica	1885	600
ADDIE B. FRYE, 11th and 12th, 26 Walker St.	1882	600
CARRIE M. SPRAGUE, 11th and 12th, 119 Howard St. .	1890	600
ELLEN L. FLOYD, 8th, 9th, and 10th, 86 Stevens St. .	1887	600
ARVILLA L. READER, 11th and 12th, 106 Appleton St. .	1871	600

FRANKLIN SCHOOL.

CORNER BRANCH AND MIDDLESEX STREETS.

SARAH C. FISKE, Principal, 1st and 2d, 134 Appleton St. .	1866	\$650
LIZZIE S. LOWE, 3d and 4th, 3 Nichols St.	1857	600
MARION J. STEVENSON, 5th, 45 Princeton St.	1878	600
KATIE G. JONES, 6th, 49 Andover St.	1880	600

PLAIN STREET SCHOOL.

CORNER PLAIN AND POWELL STREETS.

LAURA E. LEE, Principal, 4th, 5th, and 6th, 141 Grand St. .	1873	\$625
FLORA H. SPRAGUE, 1st, 2d, and 3d, 14 School St. . . .	1882	600

DOVER STREET SCHOOL.

DOVER STREET, BETWEEN MIDDLESEX AND GROVE STREETS.

CLARA B. HORNE, Principal, 1st and 2d, 20 South Highland St.	1877	\$650
CLEMENTINE H. BOWERS, 3d and 4th, 18 Loring St. . . .	1876	600
BERTHA GARDNER, 5th and 6th, 68 French St.	1887	600

KINDERGARTEN.

DOVER STREET.

ELLEN B. FOSTER, Principal, 38 Fifth St.	1892	\$500
NETTIE M. CONANT, 14 Leverett St.	1892	350

POWELL STREET SCHOOL.

POWELL STREET, NEAR LIBERTY STREET.

VIOLA A. HAMBLETT, Principal, 4th, 5th, and 6th, 60 School St.	1876	\$625
CARRIE J. BAILEY, 1st, 2d, and 3d, 16 Loring St.	1884	600

MIDDLESEX VILLAGE SCHOOL.

HATTIE F. WAKEFIELD, ungraded, 2 Loring St.	1889	\$600
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MOODY GRAMMAR SCHOOL.

CORNER HIGH AND EAST MERRIMACK STREETS.

WM. S. GREENE, Master, 195 Westford St.	1883	\$1,900
MERCENA F. WHITEHORN, 1st and 2d, 389 Beacon St.	1877	600
MARY E. WAY, 3d and 4th, 22 Tyler St.	1858	600
CORA M. HOWE, 5th and 6th	1892	450
ELIZABETH W. FROST, 7th and 8th, 132 East Merrimack St.	1857	600
LAURA J. PINDER, 8th and 10th, 35 Tyler St.	1856	600
FRANCES E. HARDMAN, 11th and 12th, 158 Stackpole St.	1873	600
FRANCES E. GARITY, 10th and 11th, 22 Read St.	1874	600

POND STREET SCHOOL.

CORNER HIGH AND POND STREETS.

MARIETTA HILL, Principal, 1st, 2d, and 3d, 122 Stackpole St.,	1870	\$625
LIZZIE A. MOLLOY, 4th, 5th, and 6th, 97 High St.	1887	600

HIGH STREET SCHOOL.

HIGH STREET, BETWEEN CHESTNUT AND EVERETT STREETS.

CLARA A. EMERSON, Principal, 1st, 2d, and 3d, 79 Appleton St.	1869	\$625
ELIZABETH WORTHLEY, 4th, 5th, and 6th, 21 Canada St.	1891	500

FAYETTE STREET SCHOOL.

FAYETTE STREET, BETWEEN CHESTNUT AND EVERETT STREETS.

HELEN KOHAWN, Principal, 1st, 2d, and 3d, 17 Thirteenth St.,	1877	\$625
AGNES T. FAY, 4th, 5th, and 6th, Tenth St.	1892	450

SYCAMORE STREET SCHOOL.

ALICE B. BESSE, ungraded, Rogers St.	1891	\$525
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PAWTUCKET GRAMMAR SCHOOL.

MAMMOTH ROAD, PAWTUCKETVILLE.

WILLIAM P. BARRY, Master, 62 Suffolk St.	1887	\$1,900
NELLIE MACDONALD, 1st and 2d, 10 Marsh St.	1878	600
CARRIE M. HART, 3d, 4th, 5th, and 6th, 6 Varney St.	1887	600
CELESTIA P. CHASE, 7th and 8th, 131 School St.	1867	600
JULIA M. HEALEY, 9th and 10th, 80 Bowers St.	1870	600
EFFIE I. MARSHALL, 11th and 12th, 6 Riverside St.	1887	600

MAMMOTH ROAD SCHOOL.

PAWTUCKET SCHOOL BUILDING.

ELLEN M. HOLDEN, Principal, 1st, 2d, and 3d, Eighth Ave., Pawtucketville	1876	\$650
ALICE M. BATCHELDER, 3d, 4th, and 5th, 7 Arlington St.	1887	600
NELLIE F. DAVIDSON, 5th and 6th, 3 Lombard St.	1891	500

VARNUM AVENUE SCHOOL.

—————, ungraded ———.

VARNUM GRAMMAR SCHOOL.

MYRTLE STREET, CENTRALVILLE.

GEORGE W. HOWE, Master, 54 Methuen St.	1880	\$1,900
GEORGIANNA F. VINTON, 1st and 2d, 32 Fourth St.	1872	600
HARRIET F. BRADLEY, 3d and 4th, 38 Fourth St.	1854	600
LIZZIE C. KENNEDY, 5th and 6th, Eighteenth St.	1884	600
MINNIE F. WING, 6th and 7th, 43 Third St.	1879	600
SARAH A. BRADLEY, 7th and 8th, 145 Bridge St.	1857	600
MARIA W. ROBERTS, 8th and 9th, 74 Third St.	1875	600
ALICE R. KEESE, 9th and 10th, 4 Sanborn St.	1881	600
LIZZIE A. HART, 10th and 11th, 6 Varney St.	1886	600
ROSA A. DOWD, 11th and 12th, 77 Tenth St.	1884	600
JULIA WILLIAMS, 11th and 12th, 172 Bridge St.	1886	600
DELIA J. SMITH, 11th and 12th, 73 Fayette St.	1891	500

WEST SIXTH STREET SCHOOL.

WEST SIXTH STREET, BETWEEN COBURN AND JEWETT STREETS, CENTRALVILLE.

STELLA J. ALLEN, Principal, 1st and 2d, 55 Third St.	1879	\$650
HATTIE A. PALMER, 2d and 3d, 12 East Merrimack St.	1888	600
MARION S. KEYES, 4th and 5th, 64 Third St.	1888	600
LIZZIE F. LAMERE, 6th, 213 Bridge St.	1885	600

TENTH STREET SCHOOL.

CORNER TENTH AND VARNUM STREETS, CENTRALVILLE.

MARY F. BEANE, Principal, 1st and 2d, 78 Tenth St.	1879	\$650
FANNIE H. MURPHY, 2d and 3d, Twelfth St.	1889	600
ALICE A. HOLTHAM, 4th and 5th, 365 Bridge St.	1887	600
ELLA A. BAILEY, 6th, 164 Bridge St.	1869	600

LAKEVIEW AVENUE SCHOOL.

LAKEVIEW AVENUE, CENTRALVILLE.

MARIETTA F. CROWLEY, Principal, 1st and 2d, 23 Marion St.,	1879	\$650
HATTIE S. SIMPSON, 3d and 4th, 48 Third St.	1887	600
MARGARET J. MCCLUSKEY, 5th, 77 Lakeview Ave.	1890	600
AGNES T. COURTNEY, 6th, 132 School St.	1891	500

FOURTH STREET SCHOOL.

HELEN M. BROWN, ungraded, 141 Bridge St.	1888	\$625
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TEACHER OF PENMANSHIP.

THOMAS M. GRAVES, 64 Beech St.	1883	\$1,250
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MUSICAL DIRECTOR.

WALTER E. OWEN, 33 Oak St.	1886	\$1,250
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TEACHER OF DRAWING.

OLIVE E. UNDERHILL, 51 Branch St.	1887	\$1,250
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TEACHER OF SEWING.

IDA J. FLINT, 142 Liberty St.	1880	\$800
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MILITARY INSTRUCTOR.

ALEXANDER GREIG, JR., 38 Cambridge St.	1891	\$250
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TEACHER OF PHYSICAL CULTURE.

EMMA M. HUNTLEY, Bellevue St.		
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C.

SALARIES OF TEACHERS.

HIGH SCHOOL.

Principal	\$2,500 00
Male Assistants	1,900 00
First Female Assistant	900 00
Other Female Assistants	800 00

GRAMMAR SCHOOLS.

Principals (males)	\$1,300 00 to \$1,900 00
Assistants, first year	450 00
Assistants, second year	500 00
Assistants, third year and after	600 00
Teacher of Penmanship	1,250 00
Teacher of Drawing	1,250 00
Teacher of Music	1,250 00

PRIMARY SCHOOLS.

Teachers, first year	\$450 00
Teachers, second year	500 00
Teachers, third year and after	600 00
Principals of two rooms, extra	25 00
Principals of three or more rooms, extra	50 00

TRAINING SCHOOL.

Principal	\$1,900 00
First Assistant	900 00
Second Assistant	800 00
Third Assistant	800 00

TEMPORARY TEACHERS.

Male teachers, for every school-day's service	\$3 00
Female teachers in High School, for every school-day's service	1 75
Female teachers in other schools, for every school-day's service	1 25
Graduates of Training School, after three months' service	2 25

EVENING SCHOOLS.

Principals, High School, per evening	\$5 00
Principals, Elementary, per evening	2 00
Assistants, High School, per evening	2 00
Female assistants, Elementary schools, per evening	1 25

TEXT-BOOKS USED IN THE PUBLIC SCHOOLS.

NEW FRANKLIN SERIES.

PRIMARY SCHOOLS.

First Reader.	Monroe's Reading Charts.
Second Reader.	Primary Music Reader.
Advanced Second Reader.	Normal Music Chart.
Franklin Primary Arithmetic.	Blaisdell's Physiology.

GRAMMAR SCHOOLS.

Third Reader.	Blaisdell's Physiology.
Fourth Reader.	Scudder's History of the United States.
Intermediate Reader.	Worcester's New Pronouncing Speller.

- Fifth Reader.
 Bradbury's Eaton's Practical Arithmetic.
 Patterson's Grammar.
 Hyde's Lessons in English.
 Swinton's Elementary Geography.
 Swinton's Grammar School Geography, New England Edition.
 Seudder's Short History of the United States.
 Worcester's Comprehensive Dictionary.
 Thomson's Intellectual Arithmetic.
 Spencerian Writing Books.
 Prang's Drawing Books.
 Goodrich's Child's Book of United States History.
 Intermediate Music Reader.
 Fourth Abridged Music Lessons.
 Meservey's Book-keeping.

HIGH SCHOOL.

- Allen and Greenough's Latin Grammar.
 Leighton's Latin Lessons.
 Allen and Greenough's Cæsar.
 Allen and Greenough's Virgil.
 Allen and Greenough's Cicero.
 Allen and Greenough's Ovid.
 Allen's Latin Composition.
 White's Latin Lexicon.
 Goodwin's Greek Grammar.
 White's Greek Lessons.
 Goodwin's Greek Reader.
 Homer.
 Liddell and Scott's Greek Lexicon (abridged).
 Bocher's Otto's French Grammar.
 Super's French Reader.
 Fisher's Easy French Readings.
 Bocher's College Plays.
 Heath's French Dictionary.
 Otto's German Grammar.
 Otto's German Reader.
 Methode Berlitz.
 Adler's German Dictionary.
 Eaton's Practical Arithmetic.
 Wentworth's High School Arithmetic.
 Bradbury-Emery Algebra.
 Bradbury's Trigonometry.
 Davies' Surveying.
 Meiklejohn's English Grammar.
 Lockwood's Lessons in English Compositions.
 Class Book of Prose and Poetry.
 Kellogg's Rhetoric.
 Arnold's English Literature.
 Underwood's Hand-Book of American Authors.
 Selected American Poems.
 Selected Ballads and Lyrics.
 Swinton's Outlines of History.
 Curnow's History of England.
 Leighton's History of Rome.
 Pennell's History of Greece.
 Pennell's History of Rome.
 Martin's Civil Government.
 Winslow's Intellectual Philosophy.
 Cooley's Natural Philosophy.
 Avery's Natural Philosophy.
 Sharpless & Phillips' Astronomy.
 Avery's Chemistry.
 Eliot and Storer's Manual of Chemistry.
 Eliot and Storer's Qualitative Analysis.
 Dana's Geological Story.
 Gray's Botany.
 Walker's Physiology.
 Warren's Physical Geography.
 Tozer's Classical Geography.
 Meservey's Book-keeping.
 Eichberg's Music Reader.
 Upton's Infantry Tactics.
 Stewart's Elementary Physics.
 Todhunter's Algebra.
 Wentworth's Geometry.
 Bryce's Æneid (last six books).

D.

COURSES OF STUDY. PRIMARY SCHOOLS.

TIME TABLE

In Minutes, per Week.

	1st Year.	2d Year.	3d Year.
Reading	700	610	570
Writing.....	60	60	60
Spelling.....	60	90	90
Language	75	75	75
Arithmetic.....	150	210	240
Drawing.....	60	60	60
Music	60	60	60
Geography.....	30	30	40
Nature Study	30	30	30
Physiology	25	25	25
* Manners and Morals.....	25	25	25
† Opening Exercises.....	25	25	25
‡ Recesses and Physical Training.....	200	200	200
Total.....	1500	1500	1500

* Required by State Law; time fixed at five minutes each day by vote of the School Committee.

† See Sec. 22, Chap. III., of the Rules of the School Committee.

‡ See Sec. 23, Chap. III., of the Rules. If for any reason a recess is shortened or omitted the time for the same should be given to physical exercises, and the hours for closing schools prescribed by the School Committee should not be changed.

The above table is intended as an approximate estimate of the relative importance of the different studies, and teachers are at liberty to vary the time for each study within such reasonable limits as circumstances may require.

FIRST YEAR.

FIRST HALF.

READING. — Teach by the sentence and word method, beginning with script letters on the blackboard, and later using the Monroe Charts and the first lessons in the First Reader. Employ phonic analysis to secure distinct articulation and assist in the recognition of new words. Secure naturalness of expression by making sure that no sentence is spoken until the thought is fully comprehended. Consult Miss Spear's "Preparing to Read," Calkins's "From Blackboard to Books," and Miss Badlam's "Suggestive Lessons in Language and Reading."

WRITING. — Words and letters on ruled slates from blackboard copy.

SPELLING. — Words of the reading lessons copied from the blackboard. After the letters of the alphabet are known, spelling from dictation may be begun, at the option of the teacher.

LANGUAGE.—Object: (1) To secure the confidence of the children and make them feel at home in school; (2) to increase their vocabulary; and (3) to accustom them to express their thoughts in simple and correct forms of speech.

Lead the children to talk freely about things with which they are familiar, and to reproduce short stories told them by the teacher. Require complete statements, correct forms of speech, and distinct articulation, using great care, however, that corrections are not made in a way to repel confidence or lessen interest. The importance of making children enjoy the first weeks of school life cannot be overestimated. Memory gems, brief maxims, and short selections of poetry, learned and recited in this and all succeeding grades.

ARITHMETIC. — Numbers from one to five, inclusive. Add, multiply, subtract, and divide, developing all processes by the aid of objects. Consult Wentworth and Reed's "First Steps in Number," and Baldwin's "Industrial Arithmetic" in this and all succeeding grades.

GEOGRAPHY.—Conversation lessons, preparatory to regular work in geography. Teach position, as above, below, on, under, front, back,

etc., and right and left as relative terms. Lead children to observe the temperature as warm, hot, or cold, and the weather as sunny, cloudy, or rainy. Consult Nichols' "Topics in Geography," Grade I.

NATURE STUDY. — Lessons to recognize and name a few common plants, animals, and minerals, and to note single qualities of each. Teach only from observation and experiment. The object of nature study in primary grades is not so much the acquisition of facts as the training of the powers of observation and the development of an active interest in natural objects. Consult Prince's "Courses and Methods."

PHYSIOLOGY. — Oral lessons, teaching the names and uses of the external parts of the body, and the simplest rules of health. Consult Prince's "Courses and Methods," pages 173 and 195. The order of topics prepared by Dr. Dunton of the Boston Normal School, and printed on page 196 of the above mentioned book, may profitably be followed in this and all succeeding grades. Teach the effect of the use of alcoholic stimulants and narcotics, as required by the laws of the state.

MANNERS AND MORALS. — As required by the Public Statutes of the Commonwealth, and printed on page 27 of the Rules of the School Committee, in this and all succeeding grades. Mrs. Dewey's "How to Teach Manners" or Miss Wiggin's "Lessons on Manners" may serve as a manual.

MUSIC AND DRAWING. — Throughout the course as directed by the special teacher of each of those branches.

SECOND HALF.

READING. — Franklin First Reader and supplementary readers. Continue phonics, and teach the long and short sounds of the vowels. See that every phrase is spoken as a whole. In this, as in all the grades, the aim is to secure a full comprehension of the thought, natural expression, distinct articulation, correct pronunciation, and ready utterance.

If the last part of the First Reader proves too difficult for the first year, leave a part to be finished the second year.

WRITING. — Words and sentences from the blackboard, chart, and slips prepared for the purpose on slates and the paper specially

ruled for primary work. If all the letters of the alphabet have not been learned by the pupil by the end of the year, unconsciously, give a little special instruction to accomplish this object.

SPELLING. — Words of the reading lesson copied from the blackboard, and afterwards spelled, orally or in writing, from dictation. Teach children to spell their own names, and the names of places or objects in which they are interested.

LANGUAGE. — Objects : To increase the pupils' stock of ideas and words, and to facilitate the expression of thought in correct forms of speech.

Conversational lessons as in the first half, carefully correcting all errors of expression. In this respect every lesson in this and all succeeding grades should be a language lesson. Begin writing short sentences, and teach the capital at the beginning of the sentence, the capital I, and the period and interrogation-mark.

ARITHMETIC. — Numbers, oral and written, to ten, inclusive. Use objects, but discard them gradually as facts are learned, and give much drill in applied and abstract work. Arabic and Roman notation to ten (and further, so as to enable pupils to tell page, lesson, and paragraph in the reading book, at the option of the teacher), and the signs $+$, $-$, \times , \div , $=$. Teach, objectively, the fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$; coins from one cent to ten cents; pint, quart, inch.

GEOGRAPHY. — Teach cardinal points, with practical application to objects in the school-room, the school-yard, and streets near the school-house. Have children draw plans of desk, and locate objects on them, and use an outline of the school-room drawn upon the blackboard by the teacher for the same purpose.

Give easy conversation lessons at appropriate times on natural objects and phenomena, as sun, clouds, rain, snow, etc.

NATURE STUDY. — Lessons as in the first half. Teach only the most general and obvious features, and assist pupils to find out all facts for themselves as far as possible. Whenever practicable provide specimens for all the pupils. Encourage the children to make collections.

PHYSIOLOGY. — As in the first half. In connection with names and uses, teach the proper care of the hair, teeth, nails, etc. Do not try to teach too much; only general facts which are mainly

within the range of the pupils' observation are wanted. Show importance of cleanliness, exercise, proper clothing, good food, pure air, etc., in this and all succeeding grades.

SECOND YEAR.

FIRST HALF.

READING.—The first half of the Franklin Second Reader, and supplementary readers. The fault to be most carefully avoided in this and all succeeding grades of the primary course is haggling over words. To prevent this, all new and difficult words should be pronounced and their meanings explained before oral reading is begun. Then, by questioning, make sure that the pupil fully understands every sentence before he reads it. Make haste slowly, and give pupils much easy reading, rather than a little which is difficult.

WRITING.—Words and sentences as in the first year, and from dictation. Use capitals and the period and question-mark.

SPELLING.—Words of the reading lesson written on blackboard by teacher, copied by pupils, and afterwards written from dictation or spelled orally, or both. Teach also the spelling of some proper nouns, as days of the week, etc.

LANGUAGE.—Object: To stimulate thought, to cultivate the powers of observation and imagination, and to develop facility in the use of good English.

Oral and written exercises. Use for material such objects and topics as will furnish the best opportunity for the expression of thought, and make sure that the pupil always has the thought clearly in mind before he is required, or even allowed, to say or write anything. Train observation by noting qualities and uses of objects, and the imagination by stories suggested by pictures. In connection with sentences written from dictation, teach capitals and a few common abbreviations.

ARITHMETIC.—Numbers, oral and written, in separations and combinations to twenty. Objects may be used if necessary, but ought not to be greatly needed. Continue drill in applied and abstract work. Simple operations in small fractions and in denominate numbers also continued. Teach pupils to read the signs +,

—, etc., and to use them as well as know their meaning. Form and read tables to the limit of known numbers in this and all succeeding grades.

GEOGRAPHY.—Continue drill in cardinal directions, applying the terms north, south, etc., to all objects near enough to the school-house to be within the range of the child's observation or knowledge. Apply same to direction of wind. Repeat plan of desk, by pupils, and of room or yard by teacher, and speak of the plans as "maps," but do not require definitions. Continue study of objects within vision, as cloud, dew, ice, fog, etc.

NATURE STUDY.—Work of the first year continued and extended. Find properties of common minerals and note their uses. Of plants name parts, as stem, leaf, bud, etc. Name parts and note habits of animals, birds, insects, etc. Remember that no lesson is worth giving which does not thoroughly interest the pupil at the time, and tend to increase his regard for the natural objects which are all about him. Have pupils draw and describe, orally and in writing. In this year read Wood's "First Natural History Reader," and Wright's "Seaside and Wayside, No. 1."

PHYSIOLOGY.—The senses: the eye and sight; the ear and hearing. Teach only the most general features, any thorough study of the anatomy of the eye or ear being wholly out of place. Teach by observation, and experiment as far as possible. Temperance teaching as before.

SECOND HALF.

READING.—Franklin Second Reader, completed. Phonic drill continued. If pupils cannot easily complete the second reader omit the last part, and substitute easy reading from supplementary readers.

WRITING.—On slates and ruled paper, with pencils, from black-board copy, from dictation, and from print as found in the reading book.

SPELLING.—As in the first half. Have words used in sentences. Teach the spelling of terms used in other studies, and of objects like articles of food or clothing with which children are familiar.

LANGUAGE.—Object, as in the first half. Oral and written exercises. Continue the reproduction and picture stories, and simple descriptions of objects, scenes, and actions. Have the pupils construct sentences, using words taken from the reading lesson, or suggested by the teacher. Continue to give attention to capitals and the most common marks of punctuation, and teach the simplest form of letter-writing.

ARITHMETIC.—Numbers, oral and written, to fifty, with drill as in the first half. Give much practice in oral examples, with abstract numbers involving several operations, for rapid work. Roman notation to fifty. Coins, and dollar sign. Pint, quart, gallon; pint, quart, peck, bushel; inch, foot, yard; hour, day, week; month, year; dozen. Fractions, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{3}$, 1-6, 1-12, 1-16.

GEOGRAPHY.—Continue work of first half, and begin the work of recognizing and naming bodies of land and water which are within the range of the pupils' observation, as hill, valley, river, brook, etc. Field lessons can be taken if desired by the teacher. Pupils draw school-room. Model in sand natural features, as hills, valleys, etc. With growing plants in the school-room teach effects of too great heat or cold, lack of moisture, etc.

NATURE STUDY.—As in the first half. Continue collections. Experiment with seeds planted in pots in the school-room. Have children gather cocoons, and watch for the change into moths and butterflies. Make regard for animal life an integral part of all lessons on animals. Observe, draw, describe.

PHYSIOLOGY.—The senses continued: the nose and smell; the tongue and taste; touch. Show the use and value of all the senses, and the ill effects of abuse, including under the latter topic the effects of alcohol and tobacco. Be careful not to lessen influence by over-statements.

THIRD YEAR.

FIRST HALF.

READING.—The first half of the Franklin Advanced Second Reader, and supplementary readers. The habit of reproducing that which has been read, usually orally, but sometimes in writing, which should have already been begun, becomes in this and succeed-

ing grades a matter of the greatest importance, and every reading lesson should have in connection with it some work of this kind.

WRITING. — On slates, on ruled paper with pencil, and in the tracing book No. 1 with pen. Give special attention to correct pen-holding. In all written work in language, nature study, etc., insist on order, neatness, and the very best penmanship of which the pupil is capable.

SPELLING. — Words and sentences copied from the reading book, and afterwards written from dictation. New words in the reading lessons spelled orally, and afterwards written in sentences. Be sure that no pupil is called upon to spell a word the meaning of which is not known. Insist upon correct spelling in all written work. Give much drill on familiar words which are often misspelled, but do not consider it necessary to teach the spelling of all the difficult and uncommon words which are found in the reading book.

LANGUAGE. — Oral and written exercises. Review, continue, and extend all work of previous grades. Teach different forms of sentences, the use of *is, are; was, were; did, done; saw, seen, etc.*; the correct use in sentences of some synonyms, as *big, large; like, love, etc.*; and a few homonyms, as *fore, four; write, right; no, know, etc.*; the use of capitals with proper names, some abbreviations, and such punctuation as is needed in the written work done by the pupils. Consult Powell's "How to Write," Mrs. Knox-Heath's "Elementary Lessons in English," and Miss Hyde's "Practical Lessons" as far as page 34.

ARITHMETIC. — Numbers, oral and written, Arabic and Roman notation, to one hundred. Drill as before on rapid, applied, and abstract work, and give considerable attention to adding numbers in columns, and to the multiplication table, the latter being, of course, developed before it is memorized. Review and extend all previous work, especially that in fractions and denominate numbers.

GEOGRAPHY. — Begin map drawing to scale, at first with very simple objects, as a book, slate, or desk. Teach as many land and water surfaces as can be brought within the range of observation (names, not definitions), and, by the aid of pictures, begin to develop some knowledge of objects beyond vision. Field lessons

and sand modeling if convenient. Consult Nichols' "Topics in Geography," Grade II., Frye's "Brooks and Brook Basins," and "Child in Nature."

NATURE STUDY. — Observation lessons on familiar plants, animals, and minerals continued to include some knowledge of parts, habits, uses, qualities, etc., with comparisons noting resemblances and differences. Read in this year, Wood's "Second Natural History Reader" and "Seaside and Wayside, No. 2." Consult Ricks' "Natural History Lessons."

PHYSIOLOGY. — The bones, teeth, skin, and muscles. Teach few names, and only the most general features, giving special attention to the laws of health. Temperance teaching continued. Throughout this year some exercises may well be written, and the interest may be increased by drawing some of the parts described.

SECOND HALF.

READING. — Franklin Advanced Second Reader completed, and supplementary readers. Continue phonics and enunciation exercises, and teach syllables, accent, and the use of diacritical marks.

"The best way to teach children to read, after they are once started, is to put into their hands a good story book."—*Swett*.

WRITING. — Tracing book No. 2, with pen, and slates and ruled paper with pencil, as before.

SPELLING. — As in the first half.

LANGUAGE. — Results to be accomplished: At the end of this year pupils should be able to reproduce the thoughts of others, whether read silently by themselves or told them by the teacher, and to express their own thoughts on any subject clearly within the limits of their own knowledge, with considerable facility and in correct and appropriate forms of speech. They should have some knowledge of the simplest form of letter-writing, and should know the usual marks of punctuation, the common abbreviations, and the proper use of capital letters.

The work to be done is best indicated by the above statement. Consult books previously referred to, and use as a manual Miss Hyde's "Practical Lessons" through Part I.

ARITHMETIC.—Numbers to one hundred and forty-four. Arabic and Roman notation to one thousand. Review and extend the work of all previous grades.

GEOGRAPHY.—Continue work of first half and review and extend work of all previous grades. Draw to scale, maps of school-room or yard. Teach by observation as far as possible, and then, by the use of pictures, not only the bodies of land and water, but the projections of the same, as capes, peninsulas, bays, straits, etc. Observe, draw, model, and describe.

NATURE STUDY.—Lessons as in the first half.

PHYSIOLOGY.—Circulation, respiration, and digestion. As before, avoid teaching too much, and make the instruction as practical as possible by relating each fact learned to some simple and easily followed law of health.

C.

GRAMMAR SCHOOLS.

FOURTH YEAR.

READING.—Third Reader. Especial attention should be given the Introductory Exercises and the lessons in spelling and defining at the beginning of each reading lesson.

SPELLING.—Worcester's New Pronouncing Speller. First Half, to page 29. Second Half, from page 29 to 47.

ARITHMETIC.—From dictation; numeration and notation, addition and multiplication; amounts not to exceed a million. Second Half, from dictation; numeration and notation; addition and multiplication, subtraction and long division, not to exceed three periods. In subtraction, not more than two figures in the minuend to be less than the figures below them, and in division the divisor not to exceed 25.

LANGUAGE.—Hyde's Lessons in English. First Half, to page 57; Second Half, from page 57 to 114.

GEOGRAPHY.—Swinton's Elementary. First Half, to page 40; Second Half, from page 40 to 64.

HISTORY.—Child's Book of History as a reader.

MENTAL ARITHMETIC.—Thomson's Intellectual. Omit subtraction. First Half, to page 31; Second Half, including subtraction, from page 31 to 38.

FIFTH YEAR.

READING — Fourth Reader, with daily drill on Introductory Exercises, spelling and defining.

SPELLING — Worcester's New Pronouncing Speller. First Half, from page 47 to 69; Second Half, from page 69 to 93.

ARITHMETIC — Bradbury's Eaton's Practical. First Half, to page 60; Second Half, from page 60 to 87.;

LANGUAGE — Hyde's Lessons in English. First Half, from page 114 to 129; Second Half, review.

GEOGRAPHY — Swinton's Elementary Geography. First Half, from page 64 to 82; Second Half, from page 82 to end.

HISTORY — Scudder's Short History as a reader.

MENTAL ARITHMETIC — Thomson's Intellectual. First Half, to page 42; Second Half, from page 42 to 65.

SIXTH YEAR.

READING — Franklin Intermediate, with drill on Introductory Exercises daily. Spelling and defining.

SPELLING — Worcester's New Pronouncing Speller. First Half, from page 93 to 111; Second Half, from page 111 to 125.

ARITHMETIC — Bradbury's Eaton's Practical. First Half, from page 89 to 102; Second Half, from page 102 to 134.

GRAMMAR — Patterson's Elements. First Half, page 28; Second Half, from page 28 to 46.

GEOGRAPHY — Swinton's Grammar School Geography. First Half, to page 24; Second Half, from page 24 to 50.

HISTORY — Scudder's Short History as a reading book.

MENTAL ARITHMETIC — Thomson's Intellectual. First Half, from page 60 to 80; Second Half, omitting compound numbers, from page 80 to 108.

SEVENTH YEAR.

READING — Franklin Intermediate Reader, with drill on exercises to secure distinct articulation and correct pronunciation and expression.

SPELLING — Worcester's New Pronouncing Speller. First Half, from page 125 to 135; Second Half, from page 135 to 145.

ARITHMETIC — Bradbury's Eaton's Practical. First Half, from page 134 to 160; Second Half, from page 160 to 180.

GRAMMAR — Patterson's Elements. First Half, from page 46 to 76; Second Half, from page 76 to 117.

GEOGRAPHY — Swinton's Grammar School. First Half, from page 50 to 70; Second Half, from page 70 to 86.

HISTORY — Scudder's History of the United States, to be taught "by reading and familiar conversation." First Half, to page 65; Second Half, from page 65 to 143.

MENTAL ARITHMETIC — Thomson's Intellectual. First Half, from page 90 to 108; Second Half, omitting interest, etc., from page 108 to 127.

EIGHTH YEAR.

READING — Fifth Reader, with drill on Introductory Treatise. Spelling and definitions.

SPELLING — Worcester's New Pronouncing Speller. First Half, from page 145 to 155; Second Half, from page 155 to 163.

ARITHMETIC — Bradbury's Eaton's Practical. First Half, from page 180 to 204; Second Half, from page 204 to 229.

GRAMMAR — Patterson's Elements. First Half, from page 117 to 138; Second Half, from page 138 to 166.

GEOGRAPHY — Swinton's Grammar School. First Half, from page 86 to 102; Second Half, from page 102 to the end.

HISTORY — Scudder's History of the United States. First Half, from page 143 to 239; Second Half, from page 239 to 329.

MENTAL ARITHMETIC — Thomson's Intellectual. First Half, omitting Bank Discount, from page 117 to 126; Second Half, from page 123 to 133.

NINTH YEAR.

READING — Fifth Reader, systematic teaching of the Introductory Treatise.

SPELLING — Worcester's New Pronouncing Speller. First Half, from page 163 to end; Second Half, review whole book.

ARITHMETIC — Bradbury's Eaton's Practical. First Half, from page 229 to 263; Second Half, review from beginning.

GRAMMAR — Patterson's Elements. First Half, from page 166 to end; Second Half, review from beginning.

GEOGRAPHY — Swinton's Grammar School. Review from beginning.

HISTORY — Scudder's History of the United States. First Half, from page 329 to 433; Second Half, review from beginning.

MENTAL ARITHMETIC — Thomson's Intellectual. First Half, from page 133 to end; Second Half, review from beginning.

GENERAL DIRECTIONS.

In Arithmetic, mental work to accompany written work daily.

In Geography, discriminate between the important and unimportant details in assigning lessons. Use as reading lessons in the Grammar School Geography, the separate States, the separate countries of South America, of Europe, of Asia, and of Africa.

Spell and define words in the various text-books. Oral spelling should be combined with written spelling, but the latter should predominate. In all spelling exercises pronounce the word but *once*, to induce habits of attention.

Teachers will make frequent reviews of their own work, and also of *the work of preceding years*, for which they will be held responsible in examinations.

Declamations once a month by boys of First and Second Classes.

Compositions each week in every class. Elements of Book-keeping, Writing, Drawing, and Music throughout the entire course.

F.

HIGH SCHOOL.

ENGLISH COURSE.

FIRST YEAR.

First Term.

Algebra.
Outlines of History.
English Lessons.

Second Term.

Algebra.
English History.
English Lessons.

SECOND YEAR.

First Term.

Geometry.
Natural Philosophy.
Physical Geography.
French.

Second Term.

Geometry.
Natural Philosophy.
Chemistry.
English Grammar.
French.

THIRD YEAR.

First Term.

Arithmetic.
Rhetoric.
Chemistry.
French.

Second Term.

Physiology.
Political Science.
Geology.
French.

CLASSICAL COURSE.

FIRST YEAR.

First Term.

Algebra.
Latin.
English Lessons.

Second Term.

Algebra.
Latin.
Natural Philosophy.

SECOND YEAR.

First Term.

Cæsar.
Geometry.
Natural Philosophy.
French.

Second Term.

Cæsar.
Geometry.
Chemistry.
French.

THIRD YEAR.

First Term.

Virgil.
Rhetoric.
Chemistry.
French.

Second Term.

Virgil.
Political Science.
Geology.
French.

FOURTH YEAR.

First Term.

Cicero.
Astronomy.
Literature.
German.

Second Term.

Cicero.
Botany.
Literature.
German.

COLLEGE COURSE.

FIRST YEAR.

First Term.

Algebra.
Latin.
Greek History.

Second Term.

Algebra.
Latin.
Roman History.

SECOND YEAR.

First Term.

Cæsar.
Geometry.
Greek.

Second Term.

Cæsar.
Geometry.
Greek Reader.

THIRD YEAR.

First Term.

Cicero.
Greek Reader.
Mathematics.

Second Term.

Cicero.
Xenophon.
Mathematics.

FOURTH YEAR.

<i>First Term.</i>	<i>Second Term.</i>
Virgil.	Virgil.
Xenophon.	Herodotus.
Physics.	Physics.

FIFTH YEAR.

<i>First Term.</i>	<i>Second Term.</i>
Virgil and Nepos (at sight).	Latin Reviews.
Homer.	Greek Reviews.
French.	French.

NOTE A — Each scholar is expected to pursue three regular studies; any change from this rule must be subject to the approval of the principal.

NOTE B — Composition, Declamation, Reading, Music, and Military Instruction are required throughout the course.

NOTE C — Book-keeping is elective.

SUMMARY OF THE ANNUAL RETURNS OF THE PUBLIC SCHOOLS OF THE CITY OF LOWELL, FOR THE YEAR ENDING DEC. 23, 1892.

SCHOOL.	LOCATION.	Number of pupils belonging Dec. 1892.			Whole No. of pupils on time books since Jan. 1, 1892.			Aver. No. of pupils belonging to school.			Average daily attendance.			No. entered, not received from any other public school.	Received from other public schools of lower grade.	Received from other public schools of same grade.	Sent to other public schools of higher grade.	Sent to other public schools of same grade.	Number having certificates of schooling for mills.	Number over fourteen years of age.	Number between ten and four teen years of age.	Number between six and ten years of age.	No. under six years of age.	Per cent. of attendance.
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.											
High.....	Broadway.....	201	200	461	293	307	600	197	252	449	187	239	426	22	195	644	16	95
Bartlett (Gram) Dis.	Cor. Clark St. and Hancock Ave.....	151	130	281	244	210	454	158	144	302	139	134	273	21	84	12	23	4	128	294	32	.....	90
PRIMARIES.																								
Cross St.....	Cross St., near Mt. Vernon St.....	70	55	125	106	98	204	60	55	115	58	48	106	53	.....	21	25	26	.....	.....	17	159	28 92
Morrill.....	Common and Adams Sts.....	97	86	183	198	164	362	102	77	179	94	69	163	122	.....	27	66	32	8	97	206	51 92	
School St.....	School St., bet. Pawtucket and Bowers..	57	51	108	79	78	157	46	38	84	41	34	75	129	.....	28	28	8	.....	.....	17	119	17 89.5
Bartlett Dis.	Totals for Primaries.....	224	192	416	383	340	723	208	170	378	193	151	344	304	.....	76	119	66	8	131	484	96 91.5	
Butler (Gram) Dis.	Gorham St.....	252	243	495	355	335	690	242	230	472	223	209	432	31	146	28	35	10	45	135	493	62	91
PRIMARIES.																								
Agawam St.....	Cor. Agawam and Barrington Sts.....	56	46	102	105	90	195	75	60	135	70	57	127	46	.....	10	36	12	.....	.....	36	133	26 94
Carter St.....	Carter St.....	69	74	143	101	119	220	64	71	135	59	65	124	65	.....	11	26	31	.....	.....	26	176	18 92
London St.....	Cor. London and West Sts.....	73	58	131	119	98	217	70	57	127	65	52	117	51	.....	11	33	12	.....	1	14	107	35 91
Lyon St.....	Cor. Central and Lyon Sts.....	46	85	130	145	137	282	92	92	184	85	83	168	21	.....	21	55	16	.....	.....	47	109	36 91
Weed St.....	Cor. Gorham and Weed Sts.....	43	43	88	61	68	129	41	40	81	39	37	76	26	.....	21	18	7	.....	.....	26	88	15 92
Butler Dis.	Totals for Primaries.....	336	308	644	531	512	1043	342	320	662	318	294	612	259	.....	74	108	.....	1	149	763	130 92	

Colburn (Gm)	198	174	372	300	247	547	191	156	347	175	144	319	40	121	24	20	18	19	74	436	37	....	192
PRIMARIES.																								
Lawrence St.....																								
Cor. Ames and Lawrence Sts.....	72	61	133	114	106	220	67	61	128	62	55	117	107	....	13	32	16	....	....	53	122	44	91
Central St., opposite Hudson St.....	84	72	156	115	134	249	81	75	156	69	72	141	58	....	18	33	8	2	1	50	169	29	90
Chapel St., opposite Pollard St.....	38	46	84	59	65	124	37	40	77	34	37	71	33	....	13	21	17	....	....	32	83	3	92
Charles St., near Gotham St.....	87	89	176	129	134	263	79	82	161	69	74	143	62	....	24	30	5	1	....	44	205	14	89
Cor. Chapel and Cottage Sts.....	36	27	63	55	50	105	38	27	65	34	23	57	16	....	8	12	9	....	....	32	62	10	88
Charles St., near Lawrence St.....	72	74	146	139	150	289	71	75	146	62	65	127	58	....	34	49	17	....	....	55	207	27	87
Totals for Primaries.....	389	369	758	611	639	1250	373	360	733	330	326	656	244	....	110	104	92	3	2	266	848	133	89.3
Edson (Gram) ..																								
PRIMARIES.																								
Cor. Highland and South Sts.....	228	208	496	374	352	726	240	240	480	215	218	433	40	199	44	29	29	17	141	469	122	....	91
Cor. Favor and Summer Sts..	81	89	170	172	190	362	80	97	177	73	86	169	100	....	66	43	47	1	5	96	241	20	90
Howard St., near Hale St.....	86	67	153	135	133	268	71	79	150	67	65	132	64	....	36	36	36	2	3	56	190	19	88
Totals for Primaries.....	107	156	323	307	323	630	151	176	227	140	151	291	164	....	102	79	83	3	8	132	331	39	89
Green (Gram).																								
PRIMARIES.																								
Merrimack St., opposite Colburn St.....	201	199	400	349	324	673	205	211	406	195	182	377	123	114	42	21	32	29	193	414	66	....	91
Cor. Cabot and Ford Sts.....	89	79	168	230	175	405	120	82	202	95	72	167	233	....	17	17	16	12	13	133	166	63	84
Cor. Cheever and Tucker Sts	74	63	137	240	168	408	79	58	137	69	47	116	398	....	10	2	21	8	8	141	206	63	85
Cor. Kirk and Lee Sts	42	42	84	106	119	225	46	54	100	42	49	91	65	....	34	29	69	2	3	39	165	18	91
Worthen St. bet. B'dway and Market St.	69	69	138	224	196	426	164	134	298	71	67	138	162	....	39	41	41	3	3	39	269	86	85
Totals for Primaries.....	274	253	527	800	658	1458	409	328	737	277	235	512	838	....	100	89	147	25	27	232	836	220	86.1
Highland (Gm)																								
PRIMARIES.																								
Pine St.....	315	318	633	423	453	876	304	314	618	277	285	562	46	118	40	66	25	5	269	537	70	....	91
Dover St., near Grove St	78	78	156	106	123	229	67	75	142	61	66	127	65	....	22	43	13	....	....	12	192	25	90
Cor. Middlesex and Branch Sts.....	121	118	239	200	193	393	108	101	209	98	91	180	111	....	49	30	35	3	6	108	232	27	90
Middlesex Vil., near 954 Middlesex St.	19	17	36	26	20	46	22	17	39	20	14	34	10	....	1	6	5	....	1	10	229	12	87
Cor. Plain and Chelmsford Sts.....	70	71	141	112	99	211	66	61	127	59	54	113	60	....	31	26	15	....	....	13	157	21	89
Powell St., near Liberty St.....	31	42	73	134	39	42	81	36	37	33	73	30	14	26	26	1	13	97	23	90
Dover St., near Grove St	26	20	46	33	22	55	27	17	44	23	14	37	55	....	....	....	....	....	....	....	1	54	84
Totals for Primaries.....	300	309	600	488	479	967	280	279	559	254	248	562	266	....	116	134	89	3	7	166	698	96	89.3
Moody (Gram).																								
PRIMARIES.																								
Cor. High and East Merrimack Sts.....	139	137	276	190	187	377	138	126	264	124	114	238	19	67	32	23	13	1	95	172	110	....	90.5
Fayette St., bet. Chestnut and Everett..	45	35	80	83	69	152	31	35	66	28	31	59	80	....	16	32	15	1	3	34	83	32	89
High St., bet. Chestnut and Everett.....	42	41	83	67	82	149	37	37	74	34	33	67	29	....	35	27	14	....	....	28	99	22	90
Pond St.....	52	42	94	80	66	146	49	39	88	44	37	81	35	....	11	28	6	....	....	12	98	36	94
Sycamore St., below Sheppard's Garden.	15	8	23	21	14	35	13	7	20	12	6	18	12	....	1	3	8	....	....	2	24	9	91
Totals for Primaries.....	139	118	257	230	217	447	117	111	228	106	101	207	144	....	62	87	35	1	3	74	280	90	90.3

SUMMARY OF THE ANNUAL RETURNS OF THE PUBLIC SCHOOLS — (CONCLUDED).

SCHOOL.		LOCATION.		Number of pupils Dec., 1892.		Whole No. of pupils on time books since Jan. 1, 1892.		Aver. No. of pupils belonging to school.		Average daily attendance.			No. entered, not received from any other public school.		Received from other public schools of lower grade.		Received from other public schools of same grade.		Sent to other public schools or higher grade.		Sent to other public schools or same grade.		Number having certificates of schooling for mills.		Number over fourteen years of age.		Number between ten and fourteen years of age.		No. under six years of age.		Per cent. of attendance.		
				Males.		Females.		Total.		Males.		Females.		Total.																			
Pawtucket Dis.	Paw't. (Gram.)	Mammoth Road, Pawtucketville		100	92	192	128	320	256	88	91	179	79	85	164	16	47	9	13	13	1	73	145	35	.....	.....	.....	.....	.....	.....	.....	.....
	PRIMARIES.																																
	Paw't. Sch.	Mammoth Rd.	Mammoth Road, Pawtucketville		73	60	133	126	259	219	73	53	126	68	47	115	68	.....	10	40	13	.....	1	22	174	22	174	22	91.5	4	92	
Pawtucket Dis.	Varnum Ave.	Varnum Avenue, Pawtucketville		11	1	12	14	3	17	7	1	8	6	1	7	12	.....	5	.....	2	.....	1	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Totals for Primaries				73	60	133	126	259	219	73	53	126	68	47	115	68	.....	10	40	13	.....	1	22	174	22	91.5	.....	.....	.....	.....	.....
	PRIMARIES.																																
Varnum Sch. Dis.	Varnum (Gm.)	Myrtle and Beach Sts., Centralville		251	225	476	357	833	685	237	218	455	222	204	426	68	130	35	27	29	14	158	434	93	.....	.....	.....	.....	.....	.....	.....	.....
	PRIMARIES.																																
	Varnum Sch. Dis.	Fourth St., over Engine House	Fourth St., over Engine House		26	16	42	51	55	106	20	18	38	17	16	33	38	.....	17	23	7	1	1	14	76	15	86	.....	.....	.....	.....	.....
Varnum Sch. Dis.	Lakeview Ave.	Lakeview Ave., near Aiken St. Bridge		106	71	177	208	167	375	95	77	172	87	71	158	166	.....	44	32	27	3	4	86	254	31	92	.....	.....	.....	.....	.....	.....
	PRIMARIES.																																
	Varnum Sch. Dis.	Cor. Tenth and Varnum Sts.	Cor. Tenth and Varnum Sts.		93	74	167	142	134	276	86	81	167	79	73	152	64	.....	31	66	12	.....	1	43	308	24	91	.....	.....	.....	.....	.....
Varnum Sch. Dis.	W. Sixth St.	West Sixth St., near Coburn St.		78	66	144	144	147	271	86	79	165	78	68	146	74	.....	17	44	22	3	6	104	151	10	89	.....	.....	.....	.....	.....	.....
	Totals for Primaries				303	227	530	545	483	1028	287	255	542	261	228	489	342	.....	109	165	68	7	12	247	689	80	89.2	.....	.....	.....	.....	.....
	PRIMARIES.																																
SUMMARY	High School	High School		201	200	401	293	367	660	197	252	449	187	239	426	22	195	.....	.....	.....	.....	.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Grammar Schools				1835	1786	3621	2720	2564	5284	1813	1720	3533	1649	1575	3224	462	1626	296	257	192	133	1366	3374	607	.....	.....	.....	.....	.....	.....	.....
	Primary and Training Schools				2905	1992	4197	4021	3714	7765	2240	2052	4292	1947	1781	3728	2649	.....	769	1075	671	42	69	1459	5103	963	.....	.....	.....	.....	.....	.....
SUMMARY	Mixed Schools	Mixed Schools		45	26	71	62	42	104	42	25	67	38	21	59	37	.....	7	9	15	.....	2	16	61	35	.....	.....	.....	.....	.....	.....	.....
	Kindergarten				26	20	46	33	22	55	27	17	44	23	14	37	55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Totals				4312	4084	8396	7129	6739	13868	4319	4006	8385	3844	3630	7474	3165	1221	1092	1331	878	175	1081	4805	5772	993

AUDITOR'S
FIFTY-SEVENTH ANNUAL REPORT
OF THE
RECEIPTS AND EXPENDITURES
OF THE
CITY OF LOWELL, MASS.

TOGETHER WITH THE
TREASURER'S ACCOUNT AND THE ACCOUNT OF THE COMMISSIONERS OF
SINKING FUNDS, FOR THE FINANCIAL YEAR
ENDING DECEMBER 31, 1892.



LOWELL, MASS.:
DAILY NEWS JOB PRINT, HILDRETH BUILDING.
1893.

CITY OF LOWELL.

IN COMMON COUNCIL, Jan. 10, 1893.

Received and ordered on file. Sent up for concurrence.

FRANK J. SIMONDS, Clerk.

IN BOARD OF ALDERMEN, Jan. 17, 1893.

Received and ordered on file, in concurrence.

MICHAEL J. DOWD, City Clerk.

AUDITOR'S REPORT

OF THE

RECEIPTS AND EXPENDITURES

FOR THE YEAR ENDING DEC. 31, 1892.

AUDITOR'S REPORT.

CITY OF LOWELL,
AUDITOR'S OFFICE, Jan. 10, 1893.

TO THE CITY COUNCIL:

Gentlemen :—In conformity with the requirements of the ordinances of the City, I have the honor to present the Fifty-seventh Annual Report of the Receipts and Expenditures of the City of Lowell, for the financial year ending Dec. 31, 1892, exhibiting the same as classified in the several Department Accounts, with a schedule of the Real and Personal Property belonging to the City, and a statement of the City Debt and Debts due the City.

RECEIPTS.

The whole amount of money received
into the Treasury from all
sources, from Jan. 1 to Dec. 31,
1892, was.....

\$3,419,083 81

Of this amount there was received on
account of

Taxes of 1888.....	\$ 2 00
Taxes of 1889.....	114 12
Taxes of 1890.....	44,827 33
Taxes of 1891.....	95,324 54
Taxes of 1892.....	989,739 78
Schools.....	831 19
School-houses.....	25,047 09
High School Building.....	35,006 99
Chelmsford Street School-house.....	60,000 37
Oakland School-house.....	10,000 00
Roads and Bridges.....	47,409 85
Watering Streets.....	18,261 66
Paving.....	25,077 33
Palmer Street.....	10,835 90
Pawtucket Boulevard.....	25,055 00
City Cemeteries.....	6,386 93
Reserve Fund.....	129,014 08
Paupers.....	30,610 36
New Buildings at City Farm.....	35,000 00
Police.....	32,241 11
Fire Department.....	42,138 67
Sewers and Drains.....	67,939 43
Commons.....	532 38
Printing and Advertising.....	33 13
Lighting.....	30 40
Public Buildings.....	3,932 18
City Hall and Memorial Building....	165,006 72
Library.....	3,503 70
Health.....	11,239 93
Water Works.....	205,359 59
New Pumping Engine.....	1,741 36
Driven Well Plant.....	100,000 00
State Aid (old account).....	9,044 57
State Aid.....	14,395 25
Aid for Indigent Soldiers and Sailors..	4,099 00
Interest.....	21,215 21
City Debt.....	676,500 00
National Bank Tax.....	4,880 87
Temporary Loans.....	400,000 00
Fund for Ordinary City Debt.....	58,915 79
City Hall and Memorial Building Sink- ing Fund.....	7,790 00

\$3,419,083 81

EXPENDITURES.

The whole amount expended and ordered to be paid from the Treasury, from Jan. 1 to Dec. 31, 1892, was

\$3,395,363 77

The expenditures are charged to the following appropriations or accounts :

Schools.....	\$201,451 57
School-houses.....	85,278 19
High School Building.....	87,462 52
Chelmsford Street School house.....	2,563 78
Oaklands School-house.....	1,900 92
Roads and Bridges.....	122,547 15
Watering Streets.....	16,793 89
Paving.....	29,012 78
Pawtucket Boulevard.....	24,403 66
Extension of Palmer Street.....	61,185 66
City Cemeteries.....	7,815 82
Reserved Fund.....	85,045 34
Paupers.....	86,982 81
New Buildings at City Farm.....	24,459 64
Police.....	101,715 43
Fire Department.....	134,403 12
Sewers and Drains.....	89,021 15
Commons.....	12,109 73
Printing and Advertising.....	9,607 75
Lighting.....	61,725 06
Public Buildings.....	44,554 06
City Hall and Memorial Building....	146,346 32
Library.....	19,908 48
Health.....	43,371 86
Water Works.....	187,907 62
New Pumping Engine.....	10,646 90
Driven Well Plant.....	4 80
Salaries.....	29,665 00
State Aid.....	15,207 05
Aid for Indigent Soldiers and Sailors	6,194 00
Interest.....	96,534 43
City Debt.....	848,900 00
National Bank Tax.....	22,403 20
State Tax.....	54,421 79
County Tax.....	55,276 39
<i>Amount carried forward.....</i>	<u>\$2,826,827 87</u>

<i>Amount brought forward</i>	\$2,826,827 87	
Abatement of Taxes.....	3,363 37	
Temporary Loans.....	400,000 00	
Fund for Ordinary City Debt.....	58,509 16	
Water Loan Sinking Fund	16,000 00	
Water Loan Old Debt Sinking Fund	24,073 37	
Sinking Fund for High Service Water Supply.....	1,800 00	
City Hall and Memorial Building Sink- ing Fund.....	15,290 00	
Sinking Fund for Loan of 1882....	2,500 00	
Aiken Street Sinking Fund.....	16,000 00	
Central Bridge Sinking Fund.....	16,000 00	
Sinking Fund for New Buildings at City Farm.....	7,000 00	
High School Sinking Fund.....	3,000 00	
Intercepting Sewer Fund.....	5,000 00	
		<u>\$3,395,363 77</u>
The whole amount of receipts during the year 1892, was.....	\$3,419,083 81	
The whole amount of expenditures during the year 1892, was....	3,395,363 77	
Excess of receipts over expenditures		<u>\$23,720 04</u>
The balance in the Treasury, January 1, 1892, was.....	\$288,718 38	
The amount received into the Treas- ury, during the year 1892, was	3,419,083 81	
Making a total of.....	\$3,707,802 19	
The amount paid from the Treasury, during the year 1892, was....	3,395,363 77	
The balance in the Treasury, Dec. 31, 1892, was.....		<u>\$312,438 42</u>

CITY DEBT.

The amount of the City Debt. Jan. 1, 1892, was.....	\$3,454,200 00
<i>Amount carried forward</i>	<u>\$3,454,200 00</u>

Amount brought forward..... \$3,454,200 00

The City Debt has been increased,
during the year as follows:

By the amount of a note given to the Central Savings Bank, dated, April 9, 1892.....	\$50,000 00	
By the amount of a note given to the Lowell Institution for Savings, dated May 4, 1892.....	70,000 00	
By the amount of a note given to the Lowell Institution for Savings, dated June 3, 1892.....	35,000 00	
By the amount of a note given to the Central Savings Bank, dated June 3, 1892.....	45,000 00	
By the amount of a note given to the Lowell Institution for Savings, dated August 31, 1892.....	70,000 00	
By the amount of a note given to the Lowell Institution for Savings, dated November 1, 1892.....	100,000 00	
By the amount of a note given to the Lowell Institution for Savings, dated December 1, 1892.....	100,000 00	
By the amount of a note given to the Commissioners of Sinking Funds dated December 10, 1892.....	73,000 00	
By the amount of one hundred \$1,000 City Hall and Memorial Build- ing bonds, dated October 1, 1890, (sold to N. W. Harris & Co.)....	100,000 00	
		643,000 00
		<u>\$4,097,200 00</u>

There have been paid on account of
the City Debt, during the year
1892, notes and bonds as fol-
lows:

To Sundry Persons (Sewer Bonds) ..	\$22,500 00
To Sundry Persons (Central Bridge Bonds)	120,000 00
To Lowell Institution for Savings....	364,000 00
To Commissioners of Sinking Funds	308,100 00

Amounts carried forward..... .. \$814,600 00 \$4,097,200 00

<i>Amounts brought forward</i>	\$814,600 00	\$4,097,200 00
To Blake Bros. & Co.....	22,000 00	
To Salem Five Cent Savings Bank..	5,000 00	
To Essex Savings Bank.....	5,400 00	
To Central Savings Bank.....	1,900 00	
	<hr/>	848,900 00
The amount of the City Debt, Jan. 1, 1893		<u>\$3,248,300 00</u>
Decrease in the City Debt, during the year 1892.....		<u>\$205,900 00</u>
The amount of the City Debt, on ac- count of the Water Works, Jan. 1, 1892.....	\$1,185,000 00	
This has been increased during the year by the amount of a note given to the Lowell Institution for Savings	100,000 00	
	<hr/>	\$1,285,000 00
There has been paid on account of the same during the year 1892	6,000 00	
	<hr/>	\$1,279,000 00
The amount of the Sinking Funds for the reduction of the same, Jan. 1, 1893.....	128,281 72	
	<hr/>	
Net City Debt on account of Water Works, Jan. 1. 1893.....		\$1,150,718 28
The amount of the Ordinary City Debt, Jan. 1, 1892.....	\$2,269,200 00	
This has been increased during the year by the amount of notes given.....	543,000 00	
	<hr/>	\$2,812,200 00
There has been paid on account of the same during the year 1892....	842,900 00	
	<hr/>	\$1,969,300 00
<i>Amounts carried forward</i>	\$1,969,300 00	\$1,150,718 28

<i>Amounts brought forward</i>	\$1,969,300 00	\$1,150,718 28
The amount of the Sinking Funds, for the reduction of the same, Jan. 1, 1893.....	255,502 11	
Net Ordinary City Debt, Jan. 1, 1892		<u>1,713,797 89</u>
Total Net Debt of the City Jan. 1, 1893		\$2,864,516 17
Total Net Debt of the City, Jan. 1, 1892		<u>2,570,050 43</u>
Increase in the Net Debt of the City, during the year 1892.....		<u><u>\$294,465 74</u></u>

Respectfully submitted,

DAVID CHASE,

Auditor of Accounts.

Appropriations and Expenditures.

THE AMOUNT OF THE SEVERAL APPROPRIATIONS MADE BY THE CITY COUNCIL DURING THE YEAR — THE AMOUNT OF THE UNEXPENDED BALANCE OF 1891 — THE TRANSFERS FROM ONE APPROPRIATION TO ANOTHER — THE AMOUNT RECEIVED INTO THE TREASURY FROM ALL SOURCES — THE EXPENDITURES IN DETAIL UNDER EACH APPROPRIATION, AND THE UNDRAWN BALANCES, DEC. 31, 1892 — ALSO, THE AMOUNT OF THE CITY DEBT — DEBTS DUE THE CITY — SCHEDULES OF REAL AND PERSONAL PROPERTY, ETC.

SCHOOLS.

Balance undrawn, January 1, 1892.....	\$	890 96	
Appropriation for 1892..		200,000 00	
		<u> </u>	\$200,890 96

RECEIPTS.

Received into the Treasury on account
of SCHOOLS:

From Appropriation for Water Works, for discount on bills.....	\$	93 77	
A. K. Whitcomb, for tuition of sundry persons.....		724 00	
Margaret J. King, for over draft		10 00	
Lilla McEvoy, for over draft....		2 42	
		<u> </u>	831 19
			<u> </u>
			<u>\$201,722 15</u>

EXPENDITURES.

Paid SUPERINTENDENT OF
PUBLIC SCHOOLS:

To A. K. Whitcomb, salary.....	\$2,600 00	
	<u> </u>	\$2,600 00

Paid SUPERVISOR:

To John A. Smith, salary	\$1,350 00	
	<u> </u>	\$1,350 00

Paid TRUANT OFFICERS:

To Bickford Lang, salary.....	\$900 00	
John F. Williams, salary.....	900 00	
James Kelly, salary.....	900 00	
	<u> </u>	2,700 00
		<u> </u>

<i>Amount carried forward.....</i>		<u>\$6,650 00</u>
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Amount brought forward \$ 6,650 00

Paid for SERVICES OF TEACHERS:

In High School.....	\$15,826 00	
Grammar Schools... ..	61,037 24	
Primary Schools.....	60,190 99	
Training School.....	7,087 12	
Kindergarten.....	319 00	
Sewing	794 75	
Music.....	1,250 00	
Penmanship.	1,250 00	
Drawing.....	1,250 00	
Military	250 00	
	<hr/>	149,255 10

Paid for BOOKS:

To Warren P. Adams.....	\$ 52 67	
American Book Co.....	1,176 72	
D. Appleton & Co.....	6 00	
Baleh Bros	90 00	
Boston School Supply Co.....	377 23	
E. A. Burgess.....	8 00	
Educational Publishing Co.....	26 60	
Effingham, Maynard & Co.....	54 00	
Ginn & Co.....	465 63	
D. C. Heath & Co.....	130 22	
Houghton, Mifflin & Co.....	800 53	
Leach, Shewell & Sanborn.....	21 67	
Lee & Shepard.....	71 67	
New England Publishing Co.....	9 00	
John E. Potter & Co.	22 50	
Sheldon & Co.....	427 50	
Thompson, Brown & Co.....	405 00	
William, Ware & Co.....	701 78	
Young Men's Christian Association	3 00	
	<hr/>	4,849 72

Paid for BLANK BOOKS, STATIONERY, ETC.,

To Bacheller, Dumas & Co., for blank books, binding, lettering, etc..	\$235 30	
A. S. Barnes & Co., for ink	35 80	
Boston Bank Note and Lithograph Co., for engraving diplomas..	100 00	
	<hr/>	
<i>Amounts carried forward</i>	\$371 10	\$160,784 82

<i>Amounts brought forward</i>	\$371 10	\$160,754 82
Paid for BLANK BOOKS, STATIONERY, ETC.,		
To Boston School Supply Co., for paper, crayons, etc.....	437 72	
Buckland Printing Co., for postal cards and printing.....	19 50	
Campbell & Hanscom, for postal cards and printing.....	6 25	
Frank P. Cheney, for card board..	1 50	
Eberhard Faber, for pencils.....	371 35	
Franklin Educational Co., galvanoscope, compass, wire, etc.....	45 71	
Golding & Co., for paper-cutter, staples, etc.....	61 23	
J. L. Hammett, for blackboards, slates, rubber.....	62 47	
F. Blanche Hard, for paper and ink	1 30	
Harrington Bros., for postal cards and printing....	6 75	
Holden, Patent Book Cover Co., for covers	304 71	
George F. King & Merrill, for pens, pencils, paper, etc.....	224 33	
Thomas H. Lawler, for seal, envelopes, etc.....	6 73	
J. Merrill & Son, for directory....	2 00	
Parker & Bassett, for paper.....	5 40	
W. A. Peabody, for paper.....	5 00	
Perry, Mason & Co., for "Columbus Day Programme".....	6 00	
George S. Perry & Co., for paper, pencils, ink, etc.....	566 55	
Prang Educational Co., for drawing books, rubbers, etc.....	706 88	
A. Storrs & Bement Co., for paper and envelopes.....	23 42	
M. R. Warren, for paper.....	52 80	
	<hr/>	\$3,288 70
Paid for FUEL:		
To Appropriation for Roads and Bridges, for teaming and weighing coal.....	\$278 56	
<i>Amounts carried forward</i>	<hr/> \$278 56	<hr/> \$164,043 52

<i>Amounts brought forward</i>	\$278 56	\$164,043 52
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Paid for FUEL.

To Reserved Fund, for coal.....	1,204 49	
Appropriation for Paupers, for wood	592 38	
Edward Cawley, for coal.....	9,348 06	
	<hr/>	\$11,423 49

Paid for SUNDRIES :

To Appropriation for School-houses, for labor, materials, etc.....	\$919 12	
Appropriation for Police, for services of officers.....	16 51	
Appropriation for Water Works, for water	1,815 15	
Lowell Electric Light Corporation, lighting and power.....	225 00	
Lowell Gas Light Co., for gas....	243 55	
N. E. Tel. and Tel. Co., for service	107 86	
Otis Allen & Son, for boxes.....	13 20	
Bartlett & Dow, for hardware.....	8 50	
Callahan & Sanborn, for hoze nozzle	50	
Horace B. Shattuck, for ash cans..	29 25	
Thompson Hardware Co., for shears, forceps, hardware, thermometer, etc.....	163 53	
H. R. Barker Manufacturing Co., for plumbing, repairing pencil sharpeners, etc.....	95 25	
John Callaghan, for shaker and blacking	1 75	
T. Costello & Co., for stoves, repairing stoves, etc.....	108 63	
Eastern Electric Light and Storage Battery Co., salamoniac and labor	2 38	
Farrell & Conaton, for pipes, fitting, labor, etc..	87 45	
Golding & Co., for binder blades and staples, etc.....	24 13	
W. A. Mack & Co., for pipe, zinc, mica, etc.....	15 21	
J. W. Stewart & Co., for repairing ash cans.....	3 50	
	<hr/>	
<i>Amounts carried forward</i>	\$3,880 47	\$175,467 01

Amounts brought forward..... \$3,880 47 \$175,467 01

Paid for SUNDRIES:

To H. H. Wilder & Co., for repairing stoves	70 25
Samuel Young, for repairing electrical apparatus.....	77 45
Milton Bradley Co., for tables and chairs	95 00
Patrick Brady, for re-seating chairs	24 00
Clinton L. Bruce, for ready mender	1 50
O. D. Case & Co., for arm rests....	9 60
J. J. Cluin, for Carney Medals, clocks and repairing.....	55 75
John Cross, for repairing flags....	2 50
Henry Dufresne, for repairing drums	10 25
Durant & Rogers, for medals.....	25 00
Educational Supply Co., for roller skates	1 25
W. G. Hallock, for brooms and dusters	62 15
J. L. Hammett, for thread, mats, cord, etc.....	8 30
Rose A. Jordan, for ribbon.....	17 25
Manning & Leighton, for oil cloth, chairs, etc.....	7 28
H. C. McOsker, for cord, shades, rollers, etc.	51 06
A. Monier, for needles, thread, cloth, pins, etc.....	61 55
O'Donnell & Gilbride, for needles, thread, cloth, etc.....	15 19
Harry Raynes, for plates.....	4 00
Daniel Reynolds, for repairing curtains	2 00
A. G. Whitcomb, for settees....	16 80
G. A. Andrews, agent, for cresole	2 10
Carleton & Hovey, for chemicals	49 79
C. B. Coburn & Co., for oil, cord, brooms, brushes, etc.....	215 32
Donovan & Co., for mats.....	8 87
Ellingwood & Co., for elatol....	50 00
Franklin Educational Co., for blow pipes, tubes, stopples, etc....	44 50
John I. Gibson & Co., for sulphur candles	1 50

Amounts carried forward..... \$4,870 68 \$175,467 01

Amounts brought forward..... \$4,870 68 \$175,467 01

Paid for SUNDRIES:

To A. L. Kittredge & Co., for shades, pulleys, cord, dusters, labor, etc	37 40
Simpson & Rowland, for soap, soapine, pearline and matches	19 26
Talbot Dyewood and Chemical Co., for ammonia, filter papers, etc	52 96
F. F. Coburn, for expense of High School Batallion at Brookline	100 00
Lawrence Cummings, for expense to Boston	1 04
Edward Gallagher, for expenses of Committee on Manual Training	15 58
John A. Smith, for rent of P. O. Box, postage, etc.....	61 05
A. K. Whitcomb, for expenses to Brooklyn, N. Y., address of S. E. Brussill, expressage, etc	36 65
W. A. Johnson, for professional services.....	4 00
Athanase Hurtubise, for services as interpreter.....	25 00
Joseph T. Griffin, for distributing reports.....	47 50
Edward F. Gormley, for services as census enumerator	97 90
E. W. Griffin, for services as census enumerator	71 25
John A. Herrick, for services as census enumerator.....	106 10
Thomas F. Maguire, for services as census enumerator.....	135 85
Frank J. O'Hare, for services as census enumerator.....	133 95
James J. Quinn, for services as census enumerator.....	82 55
Mrs. W. E. Adams, for services as matron at Highland School..	98 50
Emma Krebs, for services as nurse at Kindergarten.....	6 80
Lilla Ward, for services as matron at Pawtucket School.....	91 00
Ellen B. Foster, for material at Kindergarten.....	8 12

Amounts carried forward..... .. \$6,103 14 \$175, 467 01

Amounts brought forward..... \$6,103 14 \$175,467 01

Paid for SUNDRIES:

To Percy G. Barnard, for services as Quartermaster	50 00
American Orchestra, for services..	115 00
C. E. Austin, for piano cover, rent of piano and repairing drum..	39 35
Irvin A. Foote, for tuning pianos..	49 00
George S. Gardner, for drum sticks and music	4 08
R. McDaniel, for services of mu- sicians "Columbus Day"	12 00
Patten & Co., for flowers	40 00
D. L. Page Co., for lemonade	2 80
Chelmsford Street Free Baptist Society, for rent of vestry..	250 00
Mrs. C. J. Darracott, for rent of piano	12 00
Middlesex Mechanics Association, for rent of Mechanics Hall....	168 00
Patrick F. Mellen, for rent of build- ing on Sycamore Street, and services as janitor	75 00
Patrick F. Mellen Est., for rent of building on Sycamore Street...	200 00
Urban Block, for rent of hall	64 00
T. M. Bolton, for rein	1 00
Cahill Bros., for shoeing horse....	22 50
Dyer & Patterson, for blanket....	4 00
H. F. Ebert, for repairing blanket and harness	80
Fay Bros. & Hosford, for pung...	40 00
C. H. Hanson Jr., for horse cover..	4 00
Thomas H. Keefe, for keeping horse	241 00
Thomas F. Fay, for teaming	60 00
Fred A. Fox, for teaming	43 50
H. J. O'Dowd & Co., for robe, re- pairing and use of wagon	20 25
Keyes & Co., for carriage hire	3 00
James A. Keyes, for carriage hire..	18 00
Morse & Sparks, for carriage hire..	4 00
American Express Co., for trans- portation	37 65
Boston & Lowell Express Co., for transportation	3 55

Amounts carried forward..... \$7,687 62 \$175,467 01

Amounts brought forward \$7,687 62 \$175,467 01

Paid for SUNDRIES:

To Lovejoy, Paul Express Co., for transportation	9 20	
Northern Express Co., for transportation	3 70	
People's Despatch Express Co., for transportation	1 65	
Boston & Maine Railroad, for transportation	1 47	
Boston & Maine Railroad, (Western Division) for transportation..	87	
Geo. E. Stanley, for transportation	34 65	
C. W. Braley, for teaming.....	1 00	
W. C. Burnett, for teaming.....	75	
D. J. Kelly, for teaming.....	1 00	
D. F. Lyons, for teaming.....	1 50	
H. M. Pierce, for teaming....	1 00	
William Roberts, for teaming.....	4 50	
O. Taylor, for teaming.....	3 50	
James Tryon, for teaming.....	2 00	
		<hr/>
		7,754 41

EVENING SCHOOLS.

Paid for SUNDRIES:

To Services of Teachers, per pay roll,	\$11,929 25	
Services of Janitors, per pay roll,	1,412 50	
Appropriation for School-houses, for labor and material.....	12 48	
Lowell Electric Light Corporation, for lights.....	163 33	
Lowell Gas Light Co., for gas....	880 77	
Francis Sawyer, for rent of building, Aiken Street.....	30 00	
Farrell & Conaton, for tapers.....	3 00	
T. M. Graves, for inserting names in diplomas.....	5 00	
F. Blanche Hard, for manuals, paper, etc.....	5 69	
John F. Williams, for services....	10 00	
National Orchestra, for services....	24 00	
Patten & Co, for decorations.....	15 00	
Keyes & Co., for carriage hire.....	8 00	
		<hr/>
		14,499 07
<i>Amount carried forward</i>		<hr/>
		\$197,720 49

Amount brought forward,..... \$197,720 49

DRAWING SCHOOLS.

Paid for SUNDRIES:

To Services of Teachers.....	\$3,242 50	
Services of Janitors.....	84 75	
Lowell Electric Light Corporation, for lighting.....	141 92	
Lowell Gas Light Co., for lighting..	149 05	
Mary E. Cushing, for postal cards and paper.....	3 00	
F. W. Stickney, for blue prints..	7 70	
F. W. Farnham, for postal cards..	1 00	
Helen W. Wright, for postals and subscription.....	5 60	
P. P. Caproni and Bro., for studies,	55 25	
C. B. Coburn & Co., for alcohol, etc	4 50	
W. H. Spaulding & Co., for flake white.....	30	
Samuel M. Chase, for postal cards and printing.....	3 25	
John H. Toy, for labor.....	12 50	
Farrell & Conaton, for pipe, fittings and labor.....	19 53	
Thompson Hardware Co., for cal- lipers and copper wire.....	23	
	<hr/>	3,731 08
Total expenditure for the year 1892....		\$201,451 57
Balance undrawn Dec. 31, 1892.....		270 58
		<hr/>
		<u>\$201,722 15</u>

SCHOOL-HOUSES.

Balance undrawn, Jan. 1, 1892, (Moody School).....	\$37,865 28	
Appropriation for 1892.....	25,000 00	
	<hr/>	\$62,865 28

RECEIPTS.

Received into the Treasury on account
of SCHOOL-HOUSES :

From Appropriation for Schools, for labor and material	\$931 60	
Appropriation for High School Building, for labor and material.....	168 68	
Appropriation for Chelmsford Street School-house, for labor and material.....	30 06	
Appropriation for Oaklands School-house, for labor and material.....	14 25	
Richard Bray, for sale of old iron,	10 00	
Amasa Pratt, for land on Rock Street	3,892 50	
Lowell Institution for Savings, on loan (Moody School).....	20,000 00	
	<hr/>	25,047 00
Transferred from Reserved Fund.....		8,000 00
		<hr/>
		<u>\$95,912 37</u>

EXPENDITURES.

Paid for LUMBER, HARDWARE,
ETC. :

To J. W. Bennett & Co., for lumber..	\$81 00	
A. L. Brooks & Co., for lumber....	401 87	
Burnham & Davis, for lumber.....	930 87	
Howe Lumber Co., for lumber.....	516 41	
Merrimack Croquet Co., for wooden balls	5 00	
Amasa Pratt & Co., for doors, sash and lumber.....	132 12	
Charles E. Adams, for hardware....	20	
Bartlett & Dow, for hardware	531 66	
J. C. Bennett, for hardware.....	1 42	
Callahan & Sanborn, for hardware..	32	
F. W. Cheney & Co., for hardware,	18 78	
Thompson Hardware Co., for hard- ware	17 87	
	<hr/>	\$2,637 52

Paid for SUNDRIES :

To Sundry persons, for labor.....	7,599 60	
Sundry persons, for services as janitors	18,721 60	
Appropriation for Roads and Bridges, for sidewalk assess- ment, Chelmsford Street.....	8 52	
Appropriation for Sewers and Drains for sewer assessment, Common Street	33 72	
Appropriation for Water Works, for service pipe, labor, etc.....	60 77	
Lowell Gas Light Co, for meter connections.....	1 00	
Western Union Telegraph Co., for telegrams	96	
O. E. Averill, for blacksmithing...	6 85	
H. R. Barker Manufacturing Co., for pipe, fittings, labor, etc....	67 30	
T. Costello & Co., for pipe, fittings, labor, etc.....	514 16	
Farrell & Conaton, for pipe, fittings, and labor.....	1,131 14	
	<hr/>	
<i>Amounts carried forward</i>	\$28,145 62	\$2,637 52

<i>Amounts brought forward.....</i>	\$28,145 62	\$2,637 52
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Paid for SUNDRIES :

To Fuller & Warren Warming and Ventilating Co., for labor and material.....	11 00
S. H. Jones, for pipe, fittings, labor, etc.....	504 74
W. A. Mack & Co., for labor and material.....	69 63
C. H. McGraw, slice bar and poker, Middlesex Machine Co., for labor..	3 00
N. E. Water Pipe Co., for pipe....	2 64
A. Parsons, for blacksmithing.....	36 55
James A. Ready, for boiler, etc....	4 40
Rice & Co., for wire cloth.....	238 25
Scannell & Wholey, for grates, castings, tube scrapers and inspecting boilers.....	5 52
Scott & O'Day, for pipe, solder, labor, etc.....	309 41
Smead Warming and Ventilating Co., for back linings.....	38 40
J. W. Stewart, for repairing stove..	6 82
J. W. Stewart & Co., for pipe, solder, labor, etc.....	6 50
Waldo Bros., for metal lathing....	13 13
H. H. Wilder & Co., for pipe, fittings, ventilators, etc.....	61 34
D. H. Wilson & Co., for heating apparatus, etc.....	113 70
C. B. Coburn & Co., for oil. glass, cords, wicks, etc.....	617 72
James Gallagher, for lighters.....	26 37
J. F. Slater, for oil.....	6 50
W. H. Spalding Co., for paint, glass, shellac, etc.....	2 00
Harwood Manufacturing Co., for fibre seats.....	688 92
O'Donnell & Gilbride, for curtains and fixtures.....	7 20
George S. Perry & Co., for desks and seats.....	1 50
P. F. Brady, for sewer connection, Aiken Avenue... ..	204 80
	30 00

<i>Amounts carried forward.....</i>	<u>\$31,155 66</u>	<u>\$2,637 52</u>
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<i>Amounts brought forward.....</i>	\$31,155 66	\$2,637 52
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Paid for SUNDRIES:

To James Burns, for slate, zinc and labor	70 26
Edward Cawley, for lime, brick and sand.....	55 30
Daniel Cleary, for mason work and material	348 00
Coburn & Crosby, for mason work and material.....	181 14
Connors Bros., for brick, gravel, cement and labor.....	93 50
Early, Taff & Co., for lime, plaster and labor.....	58 50
C. F. Foss & Co., for cement and labor	4 65
Philip Ginty, for slate, zinc and labor.....	186 70
William E. Livingston, for sand, gravel and cement.....	67 80
Clarence H. Nelson, for labor.....	57 00
D. W. O'Brien, for mason work....	30 00
F. J. O'Connell, for mason work...	23 00
D. M. Prescott, for blackboard material and mason work.....	503 18
Rollins & Sargent, for mason work and material.....	77 60
E. A. & A. T. Smith, for concrete..	516 02
Samuel E. Snow, for mason work and material	203 16
Walker & Vaughn, for mason work and material.....	95 60
Walsh & Meers, for mason work and material.....	404 75
K. W. Whittemore, for blackboard, labor and expenses.....	40 50
Henry F. Whiting, for leather.	1 00
Thomas H. Lawler, for stationery..	2 65
F. E. Rollins, for typewriting.....	1 25
George A. Murphy & Co., for advertising and selling land on Rock Street.....	93 35
Richard Bray, for expenses of Committee	107 50

<i>Amounts carried forward.....</i>	<u>\$34,378 07</u>	<u>\$2,637 52</u>
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<i>Amounts brought forward</i>	\$34,378 07	\$2,637 52
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Paid for SUNDRIES:

To Thomas H. Elliott, for rent of land, London Street.....	50 00	
Proprietors of Locks & Canals, for rent of land, Cheever Street ..	1 00	
P. H. Heelon, for keeping horse...	218 59	
James F. O'Donnell, for carriage hire.....	24 00	
Boston & Maine Railroad, Western Division, for mileage book and transportation.....	21 76	
C. H. Hanson & Co., for teaming..	18 00	
William Roberts, for teaming.....	3 00	
	<hr/>	34,714 42

Paid for CONSTRUCTION OF
MOODY SCHOOL-HOUSE:

To Sundry persons, for labor.....	\$1,122 53	
Appropriation for Roads and Bridges, for services of En- gineer.....	29 00	
Richard Bray, for expenses of Com- mittee.....	33 03	
Stickney & Austin, on account of plans and specifications.....	1,804 12	
Daniel Cushing, for metal work, (contract).....	1,700 00	
Farrell & Conaton, for gas piping, (contract).....	327 00	
Farrell & Conaton, for warming, ventilating and sanitary cremat- ing apparatus.....	3,525 34	
Robert Goulding, for slating, (con- tract).....	1,997 00	
Joel Knapp & Son, for iron work, (contract).....	756 00	
Joel Knapp & Son, for iron work..	9 59	
Walsh & Meers, for lathing and plastering, (contract).....	2,300 00	
Walsh & Meers, for lathing and plastering.....	94 00	
	<hr/>	
<i>Amounts carried forward</i>	\$13,697 61	\$37,351 94

Amounts brought forward..... \$13,697 61 \$37,351 94

Paid for CONSTRUCTION OF
MOODY SCHOOL-HOUSE:

To Ladd & Conant, for carpenter work, (contract)	13,200 00	
Ladd & Conant, for carpenter work,	44 62	
White & Sweatt, for brick work, (contract)	18,203 00	
Burnham & Davis, for lumber.....	1 86	
Bartlett & Dow, for hardware.....	32 55	
F. W. Cheney & Co., for wheelbar- row	3 75	
Derby & Morse, for speaking tubes, fittings, etc.	119 75	
J. L. Hammett, for slates, desk rears,	2,019 62	
C. B. Coburn & Co., for waste.....	60	
Edward Cawley, for coal.	249 99	
F. E. Rollins, for typewriting.....	3 32	
Wm. E. Livingston, for cement....	2 60	
P. O'Hearn, for filling.....	22 40	
O. A. Simpson, for filling.....	262 85	
White Bros. & Co., for filling.....	4 73	
W. C. Burnett, for teaming.....	6 00	
Connors Bros., for teaming.....	6 00	
C. H. Hanson & Co., for teaming..	28 00	
D. J. Kelly, for teaming	7 00	
Daniel McCarthy, for teaming.....	10 00	
	<hr/>	*\$47,926 25
Total expenditure for the year 1892....		\$85,278 19
Balance undrawn Dec. 31, 1892		10,634 18
		<hr/>
		\$95,912 37

*Unfinished.

To this amount add the sum of \$22,134.72, expended previous to January 1, 1892, making total cost of land and building to December 31, 1892, \$70,060.97.

OAKLANDS SCHOOL-HOUSE.

Received from Lowell Institution for Savings, on loan.....	\$10,000 00	<u>\$10,000 00</u>
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EXPENDITURES.

Paid for SUNDRIES:

To Shepard, Russell & Co., for 19,046 square feet of land at 5 cents per foot.....	\$952 30	
Appropriation for School-houses, for labor	14 25	
Appropriation for Roads and Bridges, for services of Engineers	23 00	
Frank H. Ford, for plans and specifications	100 00	
P. F. Brady, for foundation, (contract)	800 00	
Howe Lumber Co., for lumber.....	11 37	
	<hr style="width: 100%;"/>	
Total expenditure for the year 1892....		*\$1,900 92
Balance undrawn Dec. 31, 1892.....		8,099 08
		<u>\$10,000 00</u>

*Unfinished.

CHELMSFORD STREET SCHOOL-HOUSE.

RECEIPTS.

Received into the Treasury on account
of **CHELMSFORD STREET**
SCHOOL-HOUSE :

From Appropriation for Water Works, discount on bill.....	\$	37	
Lowell Institution for Savings, on loan.....		60,000	00
		<u>60,000</u>	<u>37</u>

EXPENDITURES.

Paid for **SUNDRIES :**

To Appropriation for Roads and Bridges, for 44,260 square feet of land at 10 cents per foot...	\$4,426	00	
Appropriation for Roads and Bridges, for services of En- gineers		30	00
Appropriation for School-houses, for labor and material.....		30	06
Appropriation for Water Works, for water		3	72
Stickney & Austin, for plans and specifications		500	00
P. F Brady, for foundation, (con- tract)		2,000	00
		<u>6,989</u>	<u>78</u>
Total expenditure for the year 1892....			53,010 59
Balance undrawn Dec. 31, 1892.....			
		<u>\$60,000</u>	<u>37</u>

*Unfinished.

HIGH SCHOOL BUILDING.

Balance undrawn, Jan. 1, 1892.....	\$111,132 35	
	<u> </u>	\$111,132 35

RECEIPTS.

Received into the Treasury on account
of HIGH SCHOOL BUILD-
ING :

From Lowell Institution for Savings, on loan.....	\$35,000 00	
Appropriation for Water Works, for discount on bills.....	63	
P. F. Brady, for use of water....	6 36	
	<u> </u>	35,006 99
		<u><u>\$146,139 34</u></u>

EXPENDITURES,

Paid for SUNDRIES :

To Stickney & Austin, for plans and specifications and service.....	\$4,212 34
Bennett & Conlon, for estimates on cost of mason work.....	10 00
Patrick F. Brady, foundation, (con- tract).....	1,170 00
Patrick F. Brady, for relaying foundation	3,823 74
C. F. Foss & Co., for heating and ventilating estimates.....	10 00
C. F. Foss & Co., for brick work, on account of contract.....	59,719 07
	<u> </u>
<i>Amount carried forward.....</i>	<i>\$68,945 15</i>

Amount brought forward..... \$68,945 15

Paid for SUNDRIES:

To C. F. Foss & Co., for brick work..	103 59
Joel Knapp & Son, for iron work, (contract).....	1,900 00
W. A. Mack & Co., on account of contract for metal work.....	2,000 00
C. H. Nelson & Co., on account of contract for carpenter work...	11,000 00
C. H. Nelson, for carpenter work..	51 07
P. O'Hearn, for foundation interior walls, (contract).....	2,960 00
P. O'Hearn, for stone.....	114 33
Appropriation for School-houses, for labor and material.....	168 68
Appropriation for Roads and Bridges, for services of En- gineers	63 00
Appropriation for Water Works, for water.....	6 36
Richard Bray, for expenses of Com- mittee.	37 20
Burnham & Davis, for lumber....	6 60
Farrell & Conaton, for pipe, traps and labor.....	27 59
J. J. Cluin, for silver trowel.....	20 00
Charles Runels, for inscribing name on stone at front entrance....	58 95

Total expenditure for the year 1892....
Balance undrawn Dec. 31, 1892.....

*\$87,462 52
58,676 82

\$146,139 34

*Unfinished.

To this amount add \$38,867.65 expended previous to January 1, 1892, making total cost of land and building to December 31, 1892, \$126,330.17.

ROADS AND BRIDGES.

Appropriation for 1892.....	\$75,000 00	
	<hr/>	\$75,000 00

RECEIPTS.

Received into the Treasury on account
of Roads and Bridges:

Received for LABOR, MATERIAL,
ETC:

From Appropriation for Schools, for weighing and teaming coal and labor.	\$278 56	
Appropriation for School-houses, for labor.....	29 00	
Appropriation for Chelmsford Street School-house, for ser- vices of Engineers.....	30 00	
Appropriation for Oakland School- house, for services of En- gineers	23 00	
Appropriation for High School Building, for services of En- gineers	63 00	
Appropriation for Pawtucket Boulevard, for services of Engineers, labor, etc.....	1,247 34	
Appropriation for Paving, for teaming and labor.....	2,351 16	
Appropriation for Watering Streets, for teaming and labor.....	422 55	
	<hr/>	
<i>Amounts carried forward</i>	\$4,444 61	\$75,000 00

<i>Amounts brought forward</i>	\$4,444 61	\$75,000 00
Received for LABOR, MATERIAL, ETC.:		
From Appropriation for City Cemeteries, for teaming and labor.....	128 50	
Reserved Fund, for teaming and weighing coal and labor.....	280 85	
Appropriation for Paupers, for weighing coal.....	5 29	
Appropriation for Police, for teaming and weighing coal..	41 96	
Appropriation for Fire Depart- ment, for teaming and weigh- ing coal.....	52 84	
Appropriation for Sewers and Drains, for teaming, labor, board of horse, services of Superintendent of Streets and City Engineer and assistants,	2,214 18	
Appropriation for Lighting, for sharpening tools, teaming, coal, etc.....	8 85	
Appropriation for Public Build- ings, for labor and material..	41 38	
Appropriation for City Hall and Memorial Building, for ser- vices of Engineers.....	24 00	
Appropriation for New Buildings at City Farm, for services of Engineers.....	14 00	
Appropriation for Health, for labor and material.....	759 55	
Appropriation for Water Works, for labor, material, and ser- vices of Engineer and as- sistants.....	1,019 55	
Appropriation for Water Works, for discount.....	21 29	
Horace P. Beals, for sale of man- ure	28 00	
Robert E. Crowley, for sale of material	454 05	
Robert E. Crowley, for bill of Lowell & Suburban Street Railway Co.....	474 75	
<i>Amounts carried forward</i>	\$10,013 65	\$75,000 00

Amounts brought forward..... \$10,013 65 \$75,000 00

Received for LABOR, MATERIAL,
ETC.:

From Appleton National Bank, for	
crushed stone and teaming..	19 00
Otis Allen & Son, for labor.....	12 50
Boston & Maine Railroad, for	
labor	16 00
A. W. Burnham, for edgestones..	7 44
R. J. Butcher, for manure.....	6 00
Thomas Carolin, for crushed	
stone	14 00
James H. Carmichael, for crushed	
stone	8 00
J. Carmichael, for over draft....	2 00
Jeremiah Clark.....	11 30
Mrs. Coburn, for manure	2 00
County of Middlesex, for manure	
and labor.....	122 06
George B. Crawford, for over	
draft	7 50
B. W. Farnham, for over draft ..	12 00
August Fels, for edgestones and	
labor	46 96
C. F. Foss & Co., for edgestones..	18 00
John J. Hogan, for edgestones..	28 24
E. S. Howe, for manure.....	93 50
W. R. Kew, for crushed stone ..	6 00
Mrs. R. Kitson, for edgestones	
and labor.....	72 65
L. F. Kittredge, for repairing	
streets.....	18 06
Ladd & Conant, for labor.....	3 50
Lowell Electric Light Corporation,	
for labor.....	10 13
Lowell & Suburban Street Rail-	
way Co., for cutting trees...	31 50
Lowell Cemetery, for crushed	
stone... ..	4 00
George H. Marston, for manure..	1 00
Patrick Meers, for over draft....	12 56
Middlesex Manufacturing Co., for	
edgestone and labor.....	49 03

Amounts carried forward..... \$10,648 58 \$75,000 00

Amounts brought forward..... \$10,648 58 \$75,000 00

Received for LABOR, MATERIAL
ETC.:

From Patrick Murphy, over draft.....	1 75	
Rev. M. O'Brien, for manure.....	3 00	
George C. Osgood, for crushed stone	12 00	
Percy Parker, for labor.....	5 00	
Mrs. Pratt, for relaying wall....	5 00	
Proprietors of Locks & Canals, for labor and material.....	3 00	
E. A. & A. T. Smith, for over pay- ment on concrete.....	55 62	
S. P. Smith, for flagging.....	9 60	
F. K. Stearns, for manure.....	1 00	
Taylor Bros., for over draft.....	1 00	
J. B. Trueworthy, for manure...	2 00	
E. M. Tucke, for edgestone.....	38 47	
W. W. Tuttle, for manure.....	1 00	
Paul Vigeant, for edgestone and labor	18 90	
W. H. White, for crushed stone..	18 00	
White Bros. & Co., for paving, crushed stone and labor....	51 56	
Mrs. Winslow, for manure.....	2 00	
Lowell Institution for Savings, on loan.....	22,000 00	
		<u>32,877 48</u>

Received for SIDEWALK ASSESS-
MENTS:

AMES STREET.

From Cornelius E. Collins.....	\$ 29 63
Mrs. Hocum Hosford.....	120 30
James F. Norton.....	55 30

BELLEVUE STREET.

From Fred Horne.....	50 40
Jacob Murphy.....	20 30

Amounts carried forward..... \$275 93 \$107,877 48

Amounts brought forward..... \$275 93 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS:

BILLINGS STREET.

From Robert G. Bartlett.....	228 20
Robert G. Bartlett.....	120 30
Robert G. Bartlett.	49 00
Robert G. Bartlett	32 83
Daniel W. Bugbee.....	71 88
Laura C. Gardner.....	11 66
Frances S. Kenneson.....	41 41
Paul F. Litchfield.....	24 74
Fred C. Miller.....	283 10
Thomas Pulsifer.....	24 50
Joseph P. Thompson.....	65 90
Joseph P. Thompson.....	147 98

BLOSSOM STREET.

From William H. Baldwin.....	23 59
James R. Crawford.....	16 45
Kate B. Davis.....	14 10
Margaret Dawson.	14 10
John J. Donnelly.....	23 22
George Durant.....	23 12
George Durant.....	30 64
Elizabeth Emerson.....	47 00
Mrs. A. L. Field.....	43 15
Lawrence B. Gannon.....	23 50
Francis Goward Est.....	47 00
George Harris.....	47 00
George H. Harris.....	18 80
James D. Haley.....	32 43
Peter Howard Est.....	47 00
Jane Isherwood.....	15 70
Walter H. Leighton.....	47 09
Michael Linane.....	47 00
James G. Marshall.....	92 07
Mary McCusker.....	47 00
Samuel Mills.....	14 10
Daniel J. Murphy.....	47 00
John Mogan	30 86

Amounts carried forward..... .. \$2,169 35 \$107,877 48

Amounts brought forward \$2,169 35 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS:

BLOSSOM STREET.

From Susan J. Melvin.....	15 60
Thomas Judge.....	23 50
George Popplewell.....	15 60
Mrs. Susan Robinson.....	23 78
Patrick J. Spencer.....	23 50

BRIDGE STREET.

From Charles H. Andrews and Charles Wheeler.....	29 40
Oscar Hall.....	18 08
Joseph S. Ludlam.....	87 30
Fred C. Miller.....	32 62
Sarah A. Nichols.....	61 49
Miranda Parker.....	24 50
John W. Pead.....	25 28
Samuel F. Pead.....	68 45
I. S. Richardson Est.....	20 48

CANTON STREET.

From S. L. Sawtell.....	32 31
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CHESTER STREET.

From E. A. Smith.....	22 50
E. A. Smith.....	81 45

CROSBY STREET.

From Mary Rourke.....	10 94
Thomas M. Donohoe Est.....	17 66
George H. Hartford, Jr.....	12 65

COBURN STREET.

From Charles H. Whitney.....	71 11
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<i>Amounts carried forward</i>	<u>\$2,887 55</u>	<u>\$107,877 48</u>
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Amounts brought forward \$2,887 55 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS :

CONGRESS STREET.

From George Runels 70 07

CHELMSFORD STREET.

From Appropriation for School-houses,	8 52
Appropriation for Roads and	
Bridges.....	138 72
Appropriation for Paupers.....	173 80
Julia A. Butterfield Est.....	87 75
" " " "	66 89
Children of Josiah Gates.....	302 00
Elizabeth O. Churchill.....	38 09
William Downey.....	29 84
John S. Daniels	44 30
Mrs. Jacob G. Favor.....	41 73
J. Gates & Sons.....	62 27
Jonathan Hope Est.....	300 86
George McLaughlin.....	23 57
M. V. B. Perkins.....	55 08
Alonzo P. Quimby.....	23 72
Shaw Stocking Co	148 03
Maria T. Stevens Est.....	129 17
Maria T. Stevens Est.....	136 71
Henry L. Tibbetts.....	23 47
John Wilson, heirs.....	40 57

DUTTON STREET.

From Nashua & Lowell Railroad Cor-
poration 19 75

EDSON STREET

From Daniel McKinnon..... 17 10

Amounts carried forward..... \$4,869 56 \$107,877 48

Amounts brought forward..... \$4,869 56 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS :

FORT HILL AVENUE.

From John J. Cluin.	13 72
Thomas Mather.....	17 42
Eugene F. Morrill.....	14 94
Fred W. Morrison.....	13 73
Clarence H. Nelson.....	13 73
Charles Pinder.....	43 65
Mrs. Julian A. Richardson.....	13 72
Oliver A. Richardson.....	45 54
F. B. Shedd & E. A. Smith, Trustees	118 73

FOSTER STREET.

From Fred A. Richardson.....	38 15
Joseph C. Batchelder.....	37 09

FREMONT STREET.

From Mary J. Whitehead.....	14 81
Newton J. Wier.....	32 31

GATES STREET.

From Children of Josiah Gates.....	19 82
Children of Josiah Gates.....	24 00
Children of Josiah Gates.....	125 96
Mrs. G. F. White.....	25 01

GORHAM STREET.

From John S. Haynes.....	37 91
P. & F. Mollahan.....	7 20

Amounts carried forward..... \$5,527 00 \$107,877 47

Amounts brought forward..... \$5,527 00 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS:

HALE STREET.

From Aroline F. Dudley.....	41 62
Mrs. William M. Foster.....	47 75
Mrs. Samuel J. Gibby Est.....	57 04
Mrs. Samuel J. Gibby Est.....	28 66
Othello O. Greenwood.....	13 87
Othello O. Greenwood.....	43 95
Joseph S. Grush	36 36
William A. Ingham.....	34 38
George F. Parsons	97 17
John Pearson.....	55 49
James Smith.....	33 81

HUDSON STREET.

From James Ashworth.....	13 40
George Green.....	58 56
Mrs. Daniel McCarthy.....	13 16
Mary McCort.....	23 17
Michael Murphy.....	80 04
Betsey Nutter.....	20 30
Patrick O'Brien.....	12 69
Joseph W. Purcell Est.....	58 94
Margaret and Cecilia Rogers....	25 15

HARVARD STREET.

From Henry Runels.....	66 55
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JEFFERSON STREET.

From Michael Gorman.....	12 40
Thomas Mahoney Heirs.....	14 67

Amounts carried forward..... .. \$6,416 13 \$107,877 48

Amounts brought forward..... \$6,416 13 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS :

JEWETT STREET

From Catherine Brady	16 74
Jane Butler Est.....	27 18
Stephen McMonagle.....	36 00
Stephen McMonagle.....	18 00
James F. Puffer Est.....	22 17
James F. Puffer Est.....	24 06

LAKEVIEW AVENUE,

From John Burke.....	25 30
August Fels.....	29 44
August Fels.....	288 35
John Gearey Est.....	32 66
John King.....	18 12
James McMahon.....	33 58
Mary McMahon.....	17 02
Merrimack Manufacturing Co...	232 53
Proprietors of Locks & Canals...	238 83
Proprietors of Locks & Canals...	443 85
Proprietors of Locks & Canals...	99 54
Rowena H. Reed.....	116 52
David G. Skillings Est.....	7 42
Charles H. Whitely.....	13 39

LUDLAM STREET.

From Charles Callahan.....	50 22
Oliver G. Clark	91 57
F. A. Hildreth Heirs.....	189 23
F. A. Hildreth Heirs.....	206 88
F. A. Hildreth Heirs.....	49 91
Catherine Kenney.....	36 72
Charles S. Lilley.....	110 06
Hiram Whitney and Henry L. Tibbetts	24 00
James S. Thompson.....	41 15

Amounts carried forward..... \$8,956 57 \$107,877 48

Amounts brought forward..... \$8,956 57 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS :

LAWSON STREET.

From William Parr..... 28 80

MAMMOTH ROAD.

From Ira M. Chase.....	98 89
Clarence G. Coburn.....	36 08
John Donohoe.....	39 27
Eliza F. Park.....	38 13
John C. Tolman.....	124 23
Atkinson C. Varnum.....	32 81
Atkinson C. Varnum.....	26 57

MARION STREET.

From Ellen Crowley.....	20 70
Daniel D. Driscoll.....	19 52
Sophia Lyons.....	20 79
Florence Mahoney.....	27 95
Mrs. Dustin B. Melvin.....	41 76
Cornelius Shanahan.....	46 73
Ezekiel B. Worthen Heirs.....	31 97

MASON STREET.

From John W. Haley.....	46 93
John A. Plummer.....	56 94
Mayhew A. Ross.....	18 86
Ditlof Ryland.....	16 65
W. R. Winning.....	18 95

MERRILL STREET.

From Hugh Fife.....	42 67
William Gaunt.....	10 21
Hugh Healey.....	11 26

Amounts carried forward..... \$9,813 24 \$107,877 48

Amounts brought forward..... \$9,813 24 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS:

NEWHALL STREET.

From Daniel J. Donahue.....	53 48
Catherine Fox.....	42 47
George H. Hartford, Jr.....	78 23
James Malone.....	59 63
Mary O'Loughlin.....	19 75
Wamesit Power Co.....	59 98
Susan O'Grady.....	71 94

NEW SCHOOL STREET.

From Caroline F. Bissell.....	18 56
George E. Leonard.....	69 87
David B. Meers.....	40 43
Orville W. Peabody.....	22 41
William A. Short.....	55 84
Robert Wood... ..	93 75
Robert Wood.....	20 70

PINE STREET.

From C. T. Chamberlin.....	147 10
Mark Holmes.....	66 75

PLEASANT STREET.

From Frank W. Chase.....	22 50
Ann Cooney.....	18 00
John Devine.....	44 69

PORTER STREET.

From Thomas Mather.....	40 18
Sarah A. Sanborn.....	32 81

<i>Amounts carried forward</i>	<u>\$10,892 31</u>	<u>\$107,877 48</u>
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Amounts brought forward..... \$10,892 31 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS:

PAWTUCKET STREET.

From Henry M. Thompson.....	52 55
Henry M. Thompson.....	48 76

RIVER STREET.

From John Kavanaugh.....	28 31
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ROYAL STREET.

From Frank C. Beharrell....	38 73
Edwin A. Bigelow.....	139 13
George H. Cole.....	36 58
Edith W. French.....	29 15
Eva L. Hird.....	34 88
Mark Holmes, Jr. & Son.....	35 23
Jennie A. Macrae.....	43 14
Alice E. Murphy.....	38 77
John A. Pullen.....	33 73
Edwin P. Sanborn.....	35 23
Ephraim Simonds.....	35 41
Emma D. Stone.....	34 98
Elizabeth M. Washburn.....	31 78
Mrs. Valentine L. Wilson.....	26 76
Mrs. Valentine L. Wilson.....	32 51
Mrs. Valentine L. Wilson.....	29 24
Lewis T. Worthley.....	28 67
Alvin E. Hersey.....	42 62

SARGENT STREET.

From Annie E. Faulkner.....	7 83
Charles W. Deehan.....	31 68

<i>Amounts carried forward</i>	\$11,787 98	\$107,877 48
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Amounts brought forward \$11,787 98 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS:

SEVENTH AVENUE.

From William D. Wilson Est. 75 00

SHERMAN STREET.

From F. B. Shedd and E. A. Smith... 64 59
E. A. Smith, et. als. 57 82

SOUTH WALKER STREET.

From Allen Buckminster 43 91
Josiah T. Corner 43 48
Oliver B. Esterbrook 43 83
George F. Penniman 35 32
George F. Penniman 50 08
George F. Penniman 196 52
Harriet B. Remington 34 77
Daniel H. Reynolds 21 00
Ella D. Smith. 35 23
George O. White 35 23

SUFFOLK STREET.

From Thomas F. Fay 27 95

SIXTH STREET.

From George W. Baker, Heirs 41 45
Harry Raynes 58 80
Harry Raynes 34 30

THIRD AVENUE.

From Sager Ashworth 46 00
Michael Barry 23 00

Amounts carried forward \$12,756 26 \$107,877 48

Amounts brought forward \$12,756 26 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS :

THIRD AVENUE.

From Michael F. Brown.....	23 09
Michael Coyne.....	23 00
Daniel Gage.. ..	23 00
Joseph B. Howell.....	33 60
Napoleon Jacques.....	23 09
Patrick Riley.....	23 00
David S. Spaulding.....	23 00
David S. Spaulding.....	23 00
Alonzo Vining and George H. Campbell.....	96 68
John A. Walsh	23 00

THORNDIKE STREET.

From Charles J. Glidden.....	27 05
James H. McDermott.....	52 63
Robert Simpson.....	70 46

UNION STREET.

From Samuel N. Wood....	36 11
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WALKER STREET.

From Charles E. Adams.....	118 03
John Q. Adams.....	46 79
George F. Howes.....	39 65
A. E. Lombard.....	32 81
Oliver D. Lombard.....	30 93
Harriet M. Spaulding.....	149 68
Wilbur F. Wright.....	34 79

WEST STREET.

From John Kavanaugh.....	26 04
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<i>Amounts carried forward</i>	\$ 13,735 69	\$107,877 48
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Amounts brought forward..... \$13,735 69 \$107,877 48

Received for SIDEWALK ASSESS-
MENTS:

WESTERN AVENUE.

From Lowell Manufacturing Co..... 19 80

WESTFORD STREET.

From E. A. Bigelow.....	85 80
Children of Josiah Gates.....	193 17
Fred Horne.....	43 51
Sarah Larrabee.....	31 37
George H. Scribner.....	11 76
Emma S. Smith.....	35 50

WEST NINTH STREET.

From Charles Frappier.....	21 35
James Lynch.....	51 40

WACHUSETT STREET.

From James F. Puffer Est.....	80 49
A. T. Richardson.....	70 21

WHIPPLE STREET.

From Greenwood Bros	25 43
Patrick Rowe.....	17 51
Herman N. Tilton	21 21
John W. Tilton.....	19 89
Joseph Tilton Est.....	33 48
Wamesit Power Co.....	34 80

14,532 37

Amount carried forward \$122,409 85

Amount brought forward..... \$122,409 85

TRANSFERS.

From Reserved Fund.....	\$3,000 00	
Appropriation for Chelmsford		
Street School-house.....	4,426 00	
	<hr/>	7,426 00
		<hr/>
		<u>\$129,835 85</u>

EXPENDITURES.

Paid SUPERINTENDENT OF
STREETS AND CIVIL EN-
GINEER:

To Horace P. Beals, Superintendent of Streets, salary.....	\$ 48 32	
Robert E. Crowley, Superintendent of Streets, salary.....	1,751 68	
Geo. Bowers, Civil Engineer, salary,	2,500 00	
	<hr/>	\$4,300 00

Paid Sundry persons for LABOR,
AS PER PAY ROLLS:

In January.....	\$6,851 19	
February.....	6,027 51	
March.....	5,038 28	
April.....	7,789 15	
May.....	5,941 75	
June.....	6,255 25	
July.....	8,568 53	
August.....	6,815 16	
September.....	7,069 90	
October.....	9,001 49	
November.....	6,822 22	
December.....	6,761 88	
	<hr/>	82,442 31
		<hr/>
<i>Amount carried forward</i>		\$86,742 31

Amount brought forward..... \$86,742 31

Paid for FUEL:

To Appropriation for Paupers, for wood	\$ 2 00	
Edward Cawley, for coal.....	228 97	
Conners Bros., for coal.....	6 40	
D. W. Horne & Son, for coal.....	59 76	
William Kittredge, for coal.....	87 33	
William E. Livingston, for coal....	28 75	
Mellin & Winslow for coal.....	67 20	
		<hr/>
		480 41

Paid for HAY, GRAIN, ETC:

To J. B. Bailey, for hay	\$ 94 65	
B. M. Blake, for oats.....	66 00	
Joseph Bowers, for straw.....	83 95	
John J. Donovan, for hay.....	175 24	
William H. Emery.....	405 00	
George F. Foster, for hay.....	60 62	
G. M. Foster, for hay.....	219 00	
W. P. Foye, for hay, oats and shorts,	2,202 57	
William E. Livingston, for oats,		
corn, meal and shorts.....	391 13	
J. McCaffrey, for hay.....	223 46	
T. J. McDonald, for oats, corn,		
etc	1,339 28	
Joseph Miller, for corn.....	30 00	
S. B. Puffer, for hay.....	109 39	
C. W. Richardson, for hay.....	21 15	
H. E. Richardson, for hay.....	64 20	
E. S. Sherman & Co., for oats, hay,		
etc.....	746 16	
James J. Stanley, for condition		
food.....	8 00	
T. J. Underwood, for hay.....	16 47	
O. D. Wilder, for meal and shorts..	852 88	
E. N. Wood & Co., for corn and		
oats	125 00	
C. M. Young, for hay.....	280 40	
		<hr/>
		7,514 55
<i>Amount carried forward</i>		<hr/>
		\$94,737 27

Amount brought forward..... \$94,737 27

Paid for LUMBER, STONE, BRICK,
CEMENT, ETC.:

To	Otis Allen & Son, for sawdust	2 00	
	A. P. Bateman, for lumber.....	68	
	Burnham & Davis, for lumber....	337 09	
	Mark Holmes, Jr. & Son, for lumber and labor.....	43 28	
	Howe Bros. & Co., for lumber....	34 13	
	Howe Lumber Co., for lumber....	732 15	
	Amasa Pratt & Co., for lumber....	37 90	
	F. W. Bennett, for paving stone...	1 50	
	Joseph Bowers, for filling.....	147 70	
	Benjamin G. Brown, for gravel....	108 30	
	Edward Cawley, for cement.....	2 60	
	Connors Bros., for lime and cement,	26 35	
	F. L. Downs, for stone.....	97 50	
	H. E. Fletcher & Co., for edgestone,	7,603 18	
	William E. Livingston, for brick, lime and cement.....	101 20	
	John Marinel, for edgestone and flagging.....	61 97	
	P. O'Hearn, for stone.....	95 50	
	L. P. Palmer, for flagging.....	654 86	
	William Reed, for rubble and mor- tar stone and granite capping,	909 63	
	John A. Simpson, for filling.....	25 65	
	E. A. & A. T. Smith, for concrete..	3,076 40	
	Swett & Gould, for circle stone....	469 13	
		<hr/>	14,568 70

Paid for HARDWARE, TOOLS,
ETC.:

To	Charles E. Adams, for hardware...	4 88	
	American Bolt Co., for studs, wedges, etc.....	21 86	
	Bartlett & Dow, for hardware and tools.....	661 74	
	J. C. Bennett, for hardware.....	14 46	
	Boutwell Bros., for iron, steel, horse shoes, etc.....	705 00	
	Callahan & Sanborn, for hardware.	20 00	
		<hr/>	
<i>Amounts carried forward</i>	\$1,427 94	\$109,305 97	

Amounts brought forward..... \$1,427 94 \$109,305 97

Paid for HARDWARE, TOOLS,
ETC.:

To F. W. Cheney & Co., for hardware and tools.....	51 65	
A. L. Ready & Son, for iron.....	52	
George W. Tibbetts, for road machine	250 00	
Thompson Hardware Co., for hardware	4 08	
	<hr/>	1,734 19

Paid for HORSES, CARRIAGES,
HARNESSES, ETC.:

To Abbott Downing Co., for sweeper and repairing.....	\$462 96
Archibald Wheel Co., for hubs and axles.....	71 15
Bartlett & Dow, for carts.....	300 00
T. M. Bolton, for harnesses, whips, blankets, and repairing.....	508 60
A. H. Cluer, for collar, pads, curry-combs, etc.....	15 50
Charles Clapp, for exchange of horses.....	500 00
J. C. Donovan, for harnesses, repairing harnesses, etc.....	90 60
Eagle Harness and Leather Oil Co., for harness oil.....	7 50
Fay Bros. & Hosford, for phaetons, repairing carriages, etc.....	411 82
Josiah Gates & Sons, for leather .	26 18
C. H. Hanson, for blankets, collars, for exchange of horses, etc....	367 60
Hill & Langtry, for leather, bits, etc	75 39
M. R. Histen, for repairing sleigh..	7 75
B. W. Johnson, for exchange of horses	225 00
Keyes & Co., for exchange of horses,	450 00
H. J. O'Dowd & Co., for wagons...	255 25

Amounts carried forward..... \$3,775 30 \$111,040 16

<i>Amounts brought forward</i>	\$3,775 30	\$111,040 16
Paid for HORSES, CARRIAGES, HARNESSES, ETC.:		
To A. C. Sanborn, for carts.....	250 00	
M. Welch, for painting and repair- ing wagons.....	23 00	
	<hr/>	4,048 30
Paid for LAND, DAMAGES. ETC.:		
To Catherine Kenney, for over charge for edgestone.....	56	
Alice Leahey, for damage to prop- erty on Fay and Gorham Streets.....	150 00	
W. E. Potter, for appraising damage to property of Catherine Shaw,	5 00	
Bartholomew Scannell, for land taken in laying out Edson Street	200 00	
Catherine Shaw, for land taken and damage to building in extend- ing "A" Street.....	575 00	
	<hr/>	930 56
Paid on account of JEFFERSON STREET BRIDGE:		
To D. H. Andrews, for construction of bridge (contract).....	1,814 00	
D. H. Andrews, for construction of fence	138 81	
Charles Runels, for labor.....	45 36	
	<hr/>	*1,998 17
Paid for SUNDRIES:		
To Appropriation for Watering Streets, for assessments.....	\$22 50	
<i>Amounts carried forward</i>	<hr/>	\$22 50 \$118,017 19

*To this amount add \$3,044.04 expended in 1891, making total cost of constructing bridge \$5,042.21.

<i>Amounts brought forward</i>	\$22 50	\$118,017 19
Paid for SUNDRIES:		
To Appropriation for Watering Streets, for labor and material.....	732 00	
Appropriation for Roads and Bridges, for sidewalk assess- ment, Chelmsford Street....	138 72	
Appropriation for Public Buildings, for labor and material.....	36 03	
Appropriation for Water Works, for ...water.....	318 47	
Lowell Electric Light Corporation, for lighting.....	64 89	
Lowell Gas Light Co., for gas.....	209 22	
N. E. Tel. & Telg. Co., for service..	73 47	
H. R. Barker Manufacturing Co., for water glass, packing, etc....	37 84	
T. Costello & Co., for pipe, fittings, solder, and labor.....	77 80	
Derby & Morse, for wiring stable..	50 00	
Farrell & Conaton, for hose, valves, sprinklers, etc	23 27	
Farrell Foundry & Machine Co., for plates, labor, etc.....	143 04	
Charles E. Gee, for repairing in- spirator.	90	
S. H. Jones, for hose, pipe, coup- lings and labor.....	81 85	
W. A. Mack & Co., for labor and Material.....	3 75	
A. Nourbourn, for repairing street sweeper and stone crusher....	44 43	
Nason B. Parsons, for filing saws..	31 77	
Jere Ryan, for repairing tin etc.. .	3 25	
Scannell & Wholly, for steel and labor	10 70	
J. W. Stewart & Co.. for tin ware..	70	
N. J. Wier & Co., for scoops.....	9 00	
Sylvester Bean, for glass and labor,	2 00	
John Cleary, for liniment.....	12 00	
C. B. Coburn & Co., for oil, tar, brooms, rope, etc.....	216 16	
Albert Crowell, for medicine.....	2 43	
<i>Amounts carried forward</i>	\$2,346 19	\$118,017 19

Amounts brought forward \$2,346 19 \$118,017 19

Paid for SUNDRIES:

To Joseph Dixon Crucible Co., for axle grease.....	19 40
Donovan & Co., for fuse, powder, dualin, brooms, etc.....	407 51
Charles F. Dow, for globes, baskets, and lanterns.....	23 25
Michael Doyle, for soap.....	3 20
Early. Taff & Co., for oil.....	1 25
P. M. Jefferson Co., for soap.....	18 50
T. H. Kittredge, for broom material	22 02
John G. Lesure, for medicine.....	10 00
James F. Manahan, for medicine..	4 50
J. F. Murray for sponges.....	16 40
Smith & Gould, for medicine.....	12 00
W. H. Spaulding & Co., tracing cloth, ink, etc.....	29 06
Spencer & Co., for signs.....	3 75
James Sullivan, for soap, chamois skin, etc.....	18 57
Talbot Dyewood & Chemical Co., for borax.....	1 92
Frank Carolin, for blank books...	5 50
Frost & Adams, for rules.....	4 80
Hooper, Lewis & Co., for blank books.....	5 00
Thomas H. Lawler, for blank books, stationery, etc.....	25 20
J. Merrill & Son, for blank books, stationery, etc.	2 50
G. C. Prince, for pens and eraser .	87
Taylor Bros., for stationery.....	6 79
George Bowers, for postage, car fares, etc.....	10 85
Patrick Courtney, for hammer handles	3 80
Robert E. Crowley, for expenses of Committee	152 45
William H. Harrigan, for laundering towels, postage, etc	12 82
John Sayers, for labor.....	54 00
A. Y. Caswell, for mileage tickets..	40 00

Amounts carried forward \$3,262 10 \$118,017 19

Amounts brought forward \$3,262 10 \$118,017 19

Paid for SUNDRIES:

To Thomas C. Lee, Agent, for insurance ..	100 00	
Town of Dracut, for tax of 1892..	28 00	
D. H. Andrews, for construction of Newhall Street Bridge.....	495 00	
D. H. Andrews, for fence, Newhall Street Bridge.....	129 00	
David Haselton, for inspecting bridge, East Merrimack Street,	18 44	
Merrimac House, for entertainment of Committee.....	17 25	
Horace Nixon, for rubber boots....	3 25	
O'Sullivan Bros., for rubber boots..	8 00	
Joseph E. Blood, for over-charge on sidewalk assessment.....	9 63	
Thomas F. Fay, for cleaning vaults,	6 00	
A. H. McCann, for professional services.....	12 50	
W. A. Sherman, for professional services	23 50	
J. H. Sparks, for professional services	14 00	
James Chalifoux, for pasturing horse.....	4 50	
American Express Co., for transportation.	2 50	
Boston & Maine Railroad, Southern Division, for transportation....	11 47	
Boston & Maine Railroad, Western Division, for transportation....	82	
John McCaffrey, for carriage hire and teaming.....	350 00	
Redmond Welch, for teaming....	20 00	
C. M. Young, for carriage hire and use of horse.....	14 00	
	<hr/>	4,529 96
Total expenditure for the year 1892....		\$122,547 15
Transferred to Appropriation for Paving,		4,000 00
		<hr/>
		\$126,547 15
Balance undrawn Dec. 31, 1892.....		3,288 70
		<hr/>
		\$129 835 85

PALMER STREET.

Balance overdrawn Jan. 1, 1892.....	\$14,700 91	
	<u> </u>	<u>\$14,700 91</u>
Received from Commissioners of Sinking Funds, per resolution of City Council	\$10,835 90	
Transferred from Appropriation for Extension of Palmer Street....	3,865 01	
	<u> </u>	<u>\$14,700 91</u>

EXTENSION OF PALMER STREET.

Balance undrawn, Jan. 1, 1892.....	\$65,050 67	
	<u>65,050 67</u>	<u>\$65,050 67</u>

EXPENDITURES.

Paid for LAND, DAMAGES, ETC.:

To Estate Thomas Nesmith, for amount awarded for land and damages	\$53,100 00	
Estate Thomas Nesmith, for interest on amount awarded for land, damages, etc., from Jan. 1891, to Jan. 1892.....	3,194 85	
Thomas Nesmith, for amount awarded for land and damages.....	3,670 00	
Thomas Nesmith, for interest on amount awarded for land and damages, from Jan. 1, 1891, to Jan. 1, 1892.....	220 81	
Thomas Nesmith, for amount allowed for removing part of building on Merrimack and Palmer Streets	666 67	
Lucy E. Nesmith, for amount allowed for removing part of building on Merrimack and Palmer Streets	333 33	
	<u>61,185 66</u>	
Total expenditure for the year 1892....		\$61,185 66
Transferred to Appropriation for Palmer Street		3,865 01
		<u>\$65,050 67</u>

PAVING.

RECEIPTS.

Received into the Treasury on account
of PAVING:

From James Byrne, for over draft.....	\$ 3 50	
William Sullivan, for over draft..	3 50	
Merrimack Manufacturing Co., for paving blocks.....	70 33	
Lowell Institution for Savings, on loan.....	25,000 00	
	<hr/>	\$25,077 33
Transferred from Appropriation for Roads and Bridges.....		4,000 00
		<hr/>
		<u>29,077 33</u>

EXPENDITURES.

Paid for SUNDRIES:

To Sundry persons for labor.....	\$6,464 56
Appropriation for Roads and Bridges, for labor.....	2,351 16
Appropriation for Watering Streets, for labor.....	282 00
Edward Cawley, for paving blocks..	8,808 92
F. L. Downs, for paving blocks....	123 82
John Hunter, for paving blocks....	107 33
Thomas McCarthy, for paving blocks	114 07
Miller & Luce, for paving plocks...	10,657 09
James H. O'Brien, for paving blocks,	21 73
August Fels, for sand.....	60 25
	<hr/>
<i>Amount carried forward ..</i>	\$28,990 93

Amount brought forward..... \$28,990 93

Paid for SUNDRIES :

To Bartlett & Dow, for hardware and tools	3 10	
W. A. Mack & Co., for oil can.....	75	
Donovan & Co., for oatmeal.....	18 00	
	<hr/>	
Total expenditure for the year 1892....		\$29,012 78
Balance undrawn Dec. 31, 1892.....		64 55
		<hr/>
		<u>\$29,077 33</u>

PAWTUCKET BOULEVARD.

Balance undrawn Jan. 1, 1892.....	\$ 43 21	
		\$ 43 21

RECEIPTS.

Received into the Treasury on account
of PAWTUCKET BOULE-
VARD:

From Lowell Cemetery, for scraper....	\$ 25 00	
R. E. Crowley, for sale of grass..	30 00	
Lowell Institution for Savings on loan	25,000 00	
		\$25,055 00
		\$25,098 21

EXPENDITURES.

Paid for SUNDRIES:

To Sundry persons, for labor.....	\$12,373 14
Appropriation for Roads and Bridges, for services of En- gineer, Superintendent of Streets, stone and labor....	1,247 34
Appropriation for Watering Streets, for labor.....	314 00
Appropriation for Water Works, for pipe and labor.....	18 21
<i>Amount carried forward</i>	<i>\$13,952 69</i>

Amount brought forward..... \$13,952 69

Paid for SUNDRIES:

To Burnham & Davis, for lumber.....	129 48
Howe Lumber Co., for lumber.....	159 33
Amasa Pratt & Co., for lumber....	105 48
American Bolt Co., for bolts.....	4 00
Charles E. Adams, for paint.....	5 39
Bartlett & Dow, for tools, hardware, grass seed, fittings for water tower, etc.....	2,987 24
J. C. Bennett, for hinges.....	05
Boutwell Bros., for steel.....	2 17
Callahan & Sanborn, for lawn mowers, hardware.....	22 00
F. W. Cheney & Co., for hardware,	9 80
W. H. Carberry, for water posts spindle.....	112 62
Doherty Bros., for castings.....	34 50
H. R. Barker Manufacturing Co., for pump fittings, fence, etc...	606 63
T. Costello & Co., for pipe, valves, lead, pails, etc.....	1,732 10
Farrell & Conaton, for pipe, lead, fittings, labor.....	85 99
C. B. Coburn & Co., for oil.....	1 80
Donovan & Co., for oatmeal.....	12 00
Early, Taff & Co., for oil and paint,	24 89
H. W. Tarbell, for trees	69 00
James Walsh, for trees.....	21 00
J. J. Cluin, for police badges.....	3 00
William E. Livingston, for cement, etc.....	26 00
John Manuel, for granite steps....	120 00
William Reed, for granite capping.	119 00
O'Sullivan Bros., for rubber boots..	5 50
Swan & Smith, for rubber boots....	2 50
William D. Andrews, for wells	260 00
George Bowers, for postage, car fares, etc	2 50
Millard F. Davis, for furnishing de- tails for water tower	20 00
Charles Elliott, for services as land- scape architect	75 00
Thomas C. Lee, agent, for insurance	20 00

Amounts carried forward..... \$20,731 66

Amount brought forward..... \$20,731 66

Paid for SUNDRIES :

To Boston & Maine Railroad (southern division), for transportation...	25	
A. H. Blake, for teaming.....	198 00	
Keyes & Co., for teaming.....	336 00	
C. F. Keyes, for teaming.....	313 00	
Michael Maguire, for teaming	270 75	
John McCaffrey, for teaming	928 00	
George H. McNabb, for teaming...	447 75	
Redmond Welch, for teaming.....	604 00	
D. J. Williams, for teaming.....	380 25	
C. M. Young, for teaming.....	194 00	
		<hr/>
Total expenditures for the year 1892....		\$24,403 66
Balance undrawn Dec. 31, 1892.....		694 55
		<hr/>
		\$25,098 21
		<hr/>

WATERING STREETS.

RECEIPTS.

Received into the Treasury on account
of WATERING STREETS:

From Central Savings Bank, on loan...	\$10,000 00	
Sundry persons, for assessments,	6,578 90	
Robert E. Crowley, for sale of manure	66 51	
Appropriation for Roads and Bridges, for teaming.....	732 00	
Appropriation for Paving, for teaming.....	282 00	
Appropriation for Pawtucket Boulevard, for teaming...	314 00	
Appropriation for Sewers and Drains, for teaming.....	228 00	
Appropriation for Water Works, for discount on bills.....	60 25	
	<hr/>	\$18,261 66
Transferred from Reserved Fund		5,000 00
		<hr/>
		<u>\$23,261 66</u>

EXPENDITURES.

Paid for SUNDRIES :

To Sundry persons, for labor.....	\$4,272 03
Appropriation for Roads and Bridges, for labor	422 55
	<hr/>
<i>Amount carried forward</i>	<i>\$4,694 58</i>

Amount brought forward..... \$4,694 58

Paid for SUNDRIES:

To Appropriation for Public Buildings, for lumber and labor....	184 71
Appropriation for Water Works, for pipe, fittings, etc.....	5 77
Appropriation for Water Works, for water.....	604 80
Burnham & Davis, for lumber.....	10 47
Mark Holmes, Jr. & Son, for lumber.....	40
Howe Lumber Co., for lumber.....	1 48
Bartlett & Dow, for hardware.....	13 59
Boutwell Bros., for hardware.....	14 61
F. W. Cheney & Co., for measure...	40
H. R. Barker Manufacturing Co., for fittings, wrench and labor..	10 75
T. Costello & Co., for pipe, fittings, solder, labor, etc.....	283 39
Farrell & Conaton, for solder and labor.....	3 25
Curtis McEwan, for repairing water- ing cart....	1 00
William McLarney & Co., for repair- ing sprinklers.....	1 45
Jerry Ryan, for repairing street sprinklers.....	21 80
T. M. Bolton, for harnesses, repairing halters, etc.....	245 87
Charles Clapp, for horses.....	1,200 00
J. C. Donovan, for harnesses and repairing.....	177 00
Dyer & Patterson, for harnesses....	60 00
C. H. Hanson, Jr., for harness.....	60 00
C. H. Hanson & Co., for horses....	1,650 00
M. J. Sullivan, for blankets and surcingle.....	105 70
C. B. Coburn & Co., for wiggins, etc	7 63
Donovan & Co., for pails, salt, etc..	23 42
Early, Taff & Co., for varnish.....	5 00
Smith & Gould, for lotion.....	3 00
James Sullivan, for sponges, syr- inges, medicines, etc.....	35 35
W. H. Spaulding & Co., for oil, paint, brushes, varnish, etc....	31 62
<i>Amount carried forward</i>	<hr/> \$9,457 04

Amount brought forward..... \$9,457 04

Paid for SUNDRIES:

To Joseph Bowers, for straw.....	20 24	
W. P. Foy, for hay, oats and meal..	616 95	
William E. Livingston, for oats....	46 92	
T. J. McDonald, for hay and grain,	382 60	
E. S. Sherman & Co. for hay and		
grain	436 11	
James J. Stanley, for condition food	8 00	
O. D. Wilder, for meal, shorts, etc..	136 60	
C. M. Young, for hay.....	201 55	
Robert E. Crowley, for expenses of		
Committee.....	49 00	
W. H. Harrigan, for broom material	2 75	
Thomas C. Lee, Agent, for in-		
surance	50 00	
Thomas H. Lawler, for blank books,	90	
Lowell Electric Light Corporation,		
for lighting.....	30 13	
Stanton & Thurston, for horses,		
carts, harnesses, stand pipes,		
etc.....	3,037 50	
Studdebaker Bros. Manufacturing		
Co., for six sprinkling carts...	2,300 00	
Charles H. Ricker, for professional		
services.....	10 00	
American Express Co., for trans-		
portation.....	60	
Charles Clapp, for use of horse....	7 00	
		<hr/>
Total expenditure for the year 1892....	\$16,793 89	
Balance undrawn Dec. 31, 1892.....	6,467 77	
		<hr/>
		\$23,261 66
		<hr/>

CITY CEMETERIES.

Appropriation	\$1,000 00	
	<u> </u>	\$1,000 00

RECEIPTS.

Received into the Treasury on account
of CITY CEMETERIES :

From Wm. W. Clark, for sale, care, deeds of lots, etc.	\$6,377 50	
Appropriation for Water Works, for water	9 43	
	<u> </u>	6,386 93
Transferred from Appropriation for Interest		428 89
		<u>\$7,815 82</u>

EXPENDITURES.

Paid for SUNDRIES :

To William W. Clark, Superintendent, salary	\$ 752 50	
William W. Clark, for postage, car fares, etc.	11 56	
Sundry persons, for labor.	3,235 93	
Appropriation for Roads and Bridges, for manure.	128 50	
Appropriation for Watering Streets, for assessments.	25 86	
	<u> </u>	
<i>Amounts carried forward.</i>	<i>\$4,154 35</i>	

Amount brought forward \$4,154 35

Paid for SUNDRIES:

To Appropriation for Public Buildings, for labor and material.....	444 44
Appropriation for Water Works, for water.....	94 35
Appropriation for Water Works, for pipe, labor, etc.....	159 46
Burnham & Davis, for lumber....	106 94
William Chisholm, for ladder.....	4 50
Bartlett & Dow, for hardware, tools, etc.....	142 25
H. R. Barker Manufacturing Co., for pipe, fittings and labor....	5 74
Joel Knapp & Son, for sharpening lawn mowers....	7 50
J. H. Abbott, for blacksmithing...	9 35
George F. Allen, for straps and weight.....	7 72
George E. Brown, for wagons and harness.....	255 00
H. F. Ebert, for traces and chains..	13 75
Fay Bros. & Hosford, for wagons..	120 00
C. H. Hanson & Co., for exchange of horses, blankets, surcingles, etc....	207 15
C. B. Coburn & Co., for baskets, cord, etc.....	7 35
A. L. Ready & Son, for rake, shaker, and canvass.....	19 10
W. H. Spaulding & Co., for paper,	3 25
E. W. Kelly, for sod and loam.....	47 55
William E. Livingston, for cement..	1 30
L. J. LaBarge, for loam.....	57 00
Sven Olson, for manure.....	31 00
Albert E. Osgood, for loam.....	429 00
W. H. Shedd, for sod.....	333 50
Hannah M. Spaulding, for loam....	17 50
Mrs. Wyman, for sod.....	81 66
Andrews & Wheeler, for slate and labor.....	10 50
D. W. Horne & Son, for coal.....	7 25
Mullen & Winslow, for coal.....	7 00

Amount carried forward..... \$6,785 46

Amount brought forward..... \$6,785 46

Paid for SUNDRIES :

To John S. Haynes, for plants.. . . .	114 72
H. W. Tarbell, for trees and shrubs	275 00
G. B. Fuller, for labor.....	212 14
Lowell Rubber Co., for packing....	35
Daily News Job Print, for books and deeds	250 80
Thomas H. Lawler, for blank books, ink, etc.....	4 52
W. F. Speirs, for seal.....	5 00
T. J. McDonald, for hay and grain,	105 08
Edward Harrington, for teaming..	53 75
Fred A. Fox, for teaming.....	9 00

Total expenditures for the year 1892.... \$7,815 82

RESERVED FUND.

RECEIPTS.

Balance undrawn Jan. 1, 1892.....	\$18,628 35	
	<hr/>	\$18,628 35
Received into the Treasury on account of RESERVED FUND:		
From Appropriation for Schools, for coal	\$1,204 49	
Appropriation for police, for coal,	356 58	
Appropriation for Fire Department, for coal.....	136 23	
Appropriation for Lighting, for coal	16 22	
Appropriation for Water Works, discount on bills.....	24 20	
Commonwealth of Massachusetts, for rent of Armory.....	1,700 00	
Commonwealth of Massachusetts, for burial of indigent soldiers and sailors.....	297 50	
Thomas O. Allen, for milk licenses and registers.....	93 00	
N. E. Annis, for fees of Sealer of Weights and Measures...	301 60	
Austin K. Chadwick, for liquor licenses.....	115,554 00	
Austin K. Chadwick, for costs of summonses, warrants, advertising, etc., of taxes.....	1,819 54	
	<hr/>	
<i>Amounts carried forward.....</i>	\$121,503 36	\$18,628 35

Amounts brought forward..... \$121,503 36 \$18,628 35

Received into the Treasury on account
of RESERVED FUND:

From M. J. Dowd, City Clerk, for office fees	3,192 62
R. J. Noonan, fees for measuring and weighing.....	444 90
Tremont and Suffolk Mills, for sealing and adjusting scales.	15 35
Carleton & Hovey, for rent of store	1,200 00
C. Lucas & Co., for rent of store.	300 00
George R. Wheelock, for rent of store	375 00
Sundry persons for rent of Huntington and Jackson Halls, as follows:	
Ancient Order Hibernians.	35 00
Burke Temperance Inst...	35 00
John Cosgrove	150 00
Court Gen. Shields, A. O. F	35 00
Court Wamesit, A. O. F...	45 00
Lowell Lodge Elks.....	45 00
Lowell Orchestral Club...	37 50
Lowell Veteran Firemen's Association	35 00
Merrimack Div. K. of P..	35 00
Mathew Temperance Inst.	45 00
Thomas McCarty.....	25 00
George B. Mevis.....	942 50
St. Joseph's Church.....	25 00
Lincoln R. Welch.....	45 00
Young Men's Christian Association.....	50 00
Sundry persons, for cost of advertising sale of property for non-payment of sidewalk and sewer assessments.....	15 00
John F. Bateman, for disharging mortgage	25
Lowell Co-Operative Milk Association, for analyses of milk..	64 50

Amounts carried forward..... \$128,695 98 \$18,628 35

Amounts brought forward \$128,695 98 \$18,628 35

Received into the Treasury on account
of RESERVED FUND:

From Amasa Pratt & Co., for over draft,	17 50	
Taylor Bros., for over draft.....	60	
Sundry persons for licenses as hawker, as follows:		
John F. Breen	25 00	
Philip Carp.....	25 00	
Philip Cohen.....	25 00	
Moses Grosberg.....	25 00	
Moses Horlink.....	25 00	
Moses Israel.....	25 00	
Harris Ravitsdy.....	25 00	
Louis Ravin.....	25 00	
Seleke Segel.....	25 00	
Jacob Chapiro.....	25 00	
Yorick Club, for club license....	50 00	
		<hr/> \$129,014 08
		<hr/> <hr/> \$147,642 43

EXPENDITURES.

Paid MEASURER OF WOOD AND
BARK AND SUPERINTEN-
DENT OF CITY SCALES:

To Richard J. Noonan, Measurer, salary	\$600 00	
Richard J. Noonan, Superintendent, salary.....	200 00	
		<hr/> \$800 00

Paid for services of CLERKS, JAN-
ITORS, ETC.:

To Hubert M. Potter, Clerk State Aid Committee	\$1,033 50	
William P. McCarthy, Assistant City Clerk.....	1,196 81	
		<hr/>
<i>Amounts carried forward</i>	\$2,230 31	<hr/> \$800 00

<i>Amounts brought forward.....</i>	\$2,230 31	\$ 800 00
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Paid for services of CLERKS, JANITORS ETC.:

To Belle C. Hill, City Clerk's Office...	636 00
Thomas P. Sullivan, City Auditor's Office.....	974 16
Andrew G. Stiles, City Treasurer's Office.....	1,095 48
Joseph Farrell, City Treasurer's Office	690 09
Ralph W. Foote, City Treasurer's Office.....	509 67
Emma B. Colby, City Treasurer's Office	466 83
John H. Farrell, City Treasurer's Office	91 25
George C. Wenden, City Treasurer's Office.....	56 25
George W. Cassidy, City Treasurer's Office.....	85 00
Clarence W. Whidden, examining City Treasurer's Accounts....	125 00
Fred W. Hebert, City Treasurer's Office.....	6 00
Joseph A. Brogan, City Treasurer's Office.....	6 00
Jeffrey L. Mercier, City Treasurer's Office.....	6 00
Fred R. Williams, City Treasurer's Office	6 00
Stephen J. Kirby, Assessors' Office,	1,584 77
William J Keardon, Assessors' Office.....	1,164 65
James J. Kerwin, Assessors' Office,	367 50
John F. Burrill, Assessors' Office..	372 50
Henry H. Carroll, Assessors' Office,	362 50
Frank B. Hawes, Assessors' Office,	480 00
John J. Devine, Assessors' Office..	395 00
William J. Leonard, Assessors' Office	453 75
J. A. Bourbonnierre, Assessors' Office.....	5 00

<i>Amounts carried forward.....</i>	\$12,169 71	\$800 00
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Amounts brought forward \$12,169 71 \$800 00

Paid for services of CLERKS, JANITORS, ETC.:

To J. U. Turcotte, Assessors' Office....	12 50	
Emery C. Garwin, Assessors' Office,	7 50	
Arthur J. Vanasse, Assessors' Office,	5 00	
G. W. S. Hurd, Assessors' Office...	111 25	
Charles H. Cosgrove, Assessors' Of- fice.....	29 17	
James J. Dunphy, Assessors' Office.	127 50	
Arthur J. Lamere, Assessors' Office,	85 00	
Charles H. Cosgrove, for Registrars of Voters...	47 50	
John P. Farley, for Registrars of Voters.....	92 50	
Frank B. Hawes, for Registrars of Voters.....	55 00	
W. F. Miles, for Registrars of Voters.....	2 50	
Henry H. Carroll, for Registrars of Voters.....	60 00	
John F. Burrill, for Registrars of Voters.....	77 50	
Frank E. Dunbar, for Registrars of Voters.....	26 25	
James J. Dunphy, for Registrars of Voters.....	60 00	
Matthew H. Gilroy, for Registrars of Voters.....	58 75	
John F. Burrill, City Clerk's Office,	9 00	
James Crowley, Janitor at City Hall.....	927 50	
John Donohue, labor at City Hall.	364 50	
John J. McCarty, labor at City Hall,	12 00	
Richard Sullivan, labor at City Hall,	27 00	
John O'Hearn, labor at City Hall..	4 60	
Kate Sullivan, labor at City Hall..	586 00	
Nellie Cunningham, labor at City Hall.....	98 00	
Sarah McDermott, labor at City Hall.....	228 00	
	<hr/>	15,284 23
<i>Amount carried forward</i>		\$16,084 23

Amount brought forward.....

\$16,084 23

Paid for EXPENSES OF ELEC-
TIONS:

To Appropriation for Public Buildings, for labor and material.....	\$ 450 56
Appropriation for Paupers, for wood	25 75
Sundry persons, for services as Ward Officers.....	5,104 00
Lowell Machine Shop, for rent of land.....	37 50
James F. Owens, for expense of Registrars to Boston.....	4 50
Warren T. Butler, for repairing ballot boxes.....	6 80
Alvin Lawrence, for reading glass and repairing ballot boxes....	14 50
Bartlett & Dow, for hardware.....	1 54
J. W. Bennett & Co., for tarred paper.....	43 07
Campbell & Hanscom, for placards,	1 25
C. F. Hatch & Co., for envelopes and boxes.....	80 06
Thomas H. Lawler, for ink, pencils, mucilage, paper, etc.....	98 59
J. C. Donovan, for straps.....	7 20
H. C. Burnett, for teaming.....	20 00
Peter J. Dunn, for teaming.....	8 00
T. J. Dwyer, for teaming.....	8 00
D. J. Kelly, for teaming.....	57 00
Thomas G. Little, for teaming.....	31 00
Daniel Lyons, for teaming.....	25 00
Daniel McCarthy, for teaming.....	53 00
George McNabb, for teaming.....	3 00
Frank Meehan, for teaming.....	11 00
John Rogers, for teaming.....	6 00
M. Reynolds, for teaming.....	3 00
William Roberts, for teaming. ...	17 50
Samuel Tompkins, for teaming.....	3 00
James Welch, for teaming.....	3 00

6 123.82
Amount carried forward.....

\$22,108 05

Amount brought forward \$22,208 05

Paid for FUEL:

To Appropriation for Roads and Bridges, for teaming.....	\$ 26 73	
Appropriation for Paupers, for wood	5 50	
Edward Cawley, for coal.....	703 49	
	<hr/>	735 72

Paid on account of COLLECTION
OF TAXES:

To August Guillet, for serving warrants	\$426 28	
Simon B. Harris, for serving warrants	92 50	
Harrison W. Streeter, for serving warrants.....	107 58	
J. B. Trueworthy, for serving warrants	15 84	
John H. Farrell, for posting notices,	7 00	
Norbert S. Burns, for costs on taxes paid.....	73	
James Dwyer, for costs on taxes paid.	23	
David Fitzgerald, for costs on property illegally assessed.....	12 78	
Joshua M. Daniels, for amount refunded on account of improper receipt for taxes.....	34 19	
Arthur Rabin, for interest and costs on taxes of 1891.....	90	
Campbell & Hanscom, for advertising.	85 50	
Middlesex Registry of Deeds, for recording	11 25	
George F. Atkins, for carriage hire	3 00	
	<hr/>	797 78

Paid for DAMAGES, COSTS ETC..

To Appropriation for Roads and Bridges for engineering.....	\$75 00	
<i>Amounts carried forward</i>	\$75 00	\$23,741 55

<i>Amounts brought forward.....</i>	\$75 00	\$23,741 55
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Paid for DAMAGES, COSTS, ETC.:

To Appropriation for Police, for services of officers.....	1,082 50
John J. Hogan, for expenses in sundry cases....	675 37
Sundry persons for witness fees, fire inquest.....	26 40
I. I. Doane, for reporting testimony in sundry cases.....	19 70
Frank N. Owen, for reporting testimony at fire inquests.....	53 30
F. E. Rollins, for typewriting.....	15 04
Smith Premier Typewriter Co., for typewriter, cabinet, etc., for City Solicitor's office.....	152 90
C. M. Fisk, for professional services	4 00
Burnham R. Benner, for professional services	15 00
J. Arthur Gage, for professional services.....	175 00
Wm. P. Lawler, for professional services.....	6 00
F. C. Plunkett, for professional services.....	200 00
A. S. Baker & F. M. Estey, for transportation of jury.....	10 00
P. H. Heelon, for transportation of jury	5 00
Julia Barry, for personal injuries..	150 00
John Breen, for personal injuries ..	150 00
Ellen Creedon, for personal injuries	100 00
Avila D. Demery, for personal injuries.....	250 00
Martha W. Howe, for personal injuries.....	900 00
—Hamilton on execution.....	1,886 38
Thomas G. Little, for damage to wagon top and horses.....	50 00
Hannah Lupton, for personal injuries	200 00
Michael R. Slavin, for personal injuries	100 00

<i>Amounts carried forward.....</i>	<u>\$6,303 59</u>	<u>\$23,741 55</u>
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Amounts brought forward..... \$6,303 59 \$23,741 55

Paid for DAMAGES, COSTS, ETC.:

To Mary St. John, for personal injuries	125 00	
John B. Stanton, for personal injuries	150 00	
	<hr/>	6,578 59

Paid for COSTS, ETC., IN CORPORATION TAX CASES:

To Appropriation for Roads and Bridges, for services of Engineer and assistants.....	130 00
John J. Hogan, for sundry expenses.....	55 07
Frederick T. Greenhalge, for services in cases of Tremont & Suffolk and Boott Cotton Mills <i>vs.</i> City.....	775 00
F. E. Rollins, for recording testimony.....	740 57

Sundry persons for expert testimony in case of Tremont & Suffolk Mills *vs.* City:

John Boyle.....	100 00
B. C. Brainard.....	500 00
Edward A. Brigham.....	500 00
Thomas H. Connell.....	554 00
Elbridge Dearborn.....	100 00
Charles T. Fisk.....	100 00
Frederick Frye.....	400 00
Simon B. Harris.....	100 00
E. O. Holmes.....	125 00
W. E. Potter & Son.....	135 00
Sheppard, Russell & Co.....	100 00
W. H. Staples.....	525 00
Samuel Webber.....	321 30
	<hr/>

5,260 94

Paid for SUNDRIES AT BURIAL GROUNDS:

To William W. Clark, Superintendent, salary	\$175 00
	<hr/>

Amounts carried forward..... \$175 00 \$35,581 08

<i>Amounts brought forward</i>	\$175 00	\$35,581 08
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Paid for SUNDRIES AT BURIAL
GROUNDS:

To John F. Webster, for plants.....	10 00	
Appropriation for Water Works, for water.....	21 30	
	<hr/>	206 30

Paid for SUNDRIES AT HUNT-
INGTON HALL:

To James H. Cahill, Janitor, salary....	140 00	
George B. Mevis, Janitor, salary..	787 50	
Sundry persons, for labor.....	2,418 90	
Boston & Maine Railroad, for ground rent.....	475 00	
Appropriation for Police, for ser- vices of officers.....	244 76	
Appropriation for Public Buildings, for labor and materials.....	468 48	
A. L. Brooks & Co., for lumber....	3 08	
Thompson Hardware Co., for hard- ware and tools.....	27 33	
O. E. Averill, for blacksmithing....	1 00	
L. A. Derby, for repairing electrical apparatus	2 70	
Eastern Electric Light and Storage Battery Co., for repairing elect- rical apparatus	22 60	
Farrell & Conaton, for labor, fixtures and fittings.....	12 85	
W. A. Mack & Co., for tin, iron, shovels, etc.....	5 65	
Andrews Demarest Seating Co., for seats	27 00	
M. F. Gookin, for enamel cloth....	7 50	
L. W. Hawkes & Co., for twine, bur- lap and leather.....	4 10	
Harwood Manufacturing Co., for fibre seats	7 20	
	<hr/>	
<i>Amounts carried forward</i>	\$4,655 65	\$35,787 38

Amounts brought forward..... \$4,655 65 \$35,787 38

Paid for SUNDRIES AT HUNTINGTON HALL:

To Lowell Steam Carpet Cleaning Works, for cleaning and repairing carpets.....	8 60	
O'Donnell & Gilbride, for linoleum,	46 82	
Robertson & Co., for chairs.....	31 25	
Thomas H. Lawler, for stationery..	3 50	
Whiton & Knight, for plans of Hall.	15 00	
C. B. Coburn & Co., for brooms, brushes, waste, etc.....	13 03	
Daniel Gage, for ice.....	15 53	
W. H. Spalding & Co., for paper and labor.....	13 08	
Darius Whithed, for soap.....	26 75	
William Kittredge Co., for coal....	3 25	
D. D. Smith, for wood.....	1 00	
E. A. Wilson, Agent, for coal.	4 25	
F. S. Ladd, for teaming.....	1 25	
Frank Meehan, for teaming.....	1 50	
G. E. Stanley, for freight and teaming....	50	
	<hr/>	4,840 96

Paid on account of MAPS AND CHARTS FOR THE CITY:

To Sundry persons, for labor.....	\$4,103 48	
George Bowers, for car fares, expressing, etc.....	5 90	
W. M. Foster, for blank books....	2 00	
A. E. Nichols, for blank books....	75	
Taylor Bros., for blank books and ink.....	6 30	
Amasa Pratt & Co., for chestnut hubs	17 50	
Bartlett & Dow, for hardware.....	40	
Thompson Hardware Co., for hardware and tools.....	3 79	
Buff & Berger, for repairing transit	6 60	
W. W. Carey, for labor on rods....	2 88	
	<hr/>	
<i>Amounts carried forward</i>	\$4,149 60	\$40,628 34

<i>Amounts brought forward</i>	\$4,149 60	\$40,623 34
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Paid on account of MAPS AND
CHARTS FOR THE CITY:

To Bacheller, Dumas & Co., for port folios.....	7 75	
Thomas Groom & Co., for stationery	6 00	
A. L. Kittredge & Co., for tracing paper.....	7 28	
Sampson, Murdock & Co., for maps,	12 60	
W. H. Spalding & Co., for tracing paper, pencils, rubber, ink, etc.	87 22	
J. G. Cote, for cambric.....	32	
Lowell Institution for Savings, for rent	111 00	
	<hr/>	4,381 77

Paid for ENTERTAINMENT OF
SIXTH REGIMENT, M. V. M.:

To D. L. Page Co., for refreshments...	\$428 50	
Citizen Newspaper Co., for tickets and envelopes.....	2 50	
John Cross, for use of tent.....	5 00	
Thomas G. Farnsworth, for soap, towels and labor	19 86	
Sawyer Carriage Co., for repairing Ambulance	12 00	
Murphy & Bingham, for feeding horses	24 25	
	<hr/>	492 11

Paid on account of MEMORIAL
DAY:

To Posts 42, 120 and 185, per resolution	\$800 00	
	<hr/>	800 00
<i>Amount carried forward</i>		<hr/> \$46,302 22

Amount brought forward..... \$46,302 22

Paid on account of LABOR DAY:

To Central Labor Union, per resolution	\$300 00	
	<hr/>	300 00

Paid for CELEBRATION OF ONE
HUNDRED SIXTEENTH AN-
NIVERSARY OF AMERICAN
INDEPENDENCE:

To George Gardner, for use of piano...	6 00
Hub Amusement Co., for children's entertainment.....	100 00
C. E. Chute, for ringing bells.....	3 00
W. F. Dole and M. A. Ross, for ringing bells.....	6 00
H. E. Jaques, for ringing bells....	5 00
Joseph Johnson, for ringing bells..	15 00
George W. Raynes Jr., for ringing bells	10 00
Robert B. Seeton, for ringing bells	3 00
Lowell Rod and Gun Club, prizes for trap shooting....	125 00
C. W. Cheney, for refreshments at regatta	103 50
J. J. Cluin, for silver cups and engraving	68 00
Edward O'Donnell, for use of steamer	5 00
A. V. Partridge, for use of steamer	5 00
L. C. Prouty, for use of steamer...	15 00
Wm. F. Stevens, for setting course stakes	5 00
Sundry persons, prizes.....	150 00
Bedford Cadet Band, for services..	60 00
Lowell Brass Band, for services....	80 00
Alex. Mirault, for services of French Band	70 00
Union Brass Band, for services....	90 00
C. W. Wells, for services of band..	90 00

<i>Amounts carried forward</i>	\$1,014 50	\$46,602 22
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Amounts brought forward \$1,014 50 \$42,602 22

Paid for CELEBRATION OF ONE
HUNDRED SIXTEENTH AN-
NIVERSARY OF AMERICAN
INDEPENDENCE:

To Frank Dunlap, for lighting band stand	2 00
Murphy & Bingham, for carriage hire (committee on music)....	10 00
S. M. Patterson, for decorating City Hall.	25 00
James R. Allen, for baloon ascension	450 00
Keyes & Co., for carriage hire.....	3 50
Lowell Gas Light Co., for laying pipe.....	25 35
Richardson's Hotel, for refreshments	8 55
John Cross, for use of tent for fire-works	5 00
A. A. Haggett, for expense of Com- mittee	3 50
Howe Lumber Co., for lumber.....	3 67
United States Fireworks, for dis- play of fireworks.....	800 00
Sundry persons, for prizes in Ath- letic sports.....	167 00
M. J. Brady, for badges	7 00
J. J. Cluin, for cups and engraving	13 25
John Cross, for use of tent.....	3 00
T. J. Dwyer, for teaming....	2 00
J. J. Gallagher, for office rent.....	5 00
P. H. Heelon, for carriage hire	10 00
Thomas H. Lawler, for blank book	75
John J. Regan, for use of rope, cleats, etc.	5 00
Wm. H. Stafford, for expenses of committee	4 75
Campbell & Hanscom, for printing and advertising... ..	89 75
Citizen Newspaper Co., for printing and advertising.....	37 00
Daily News Co., for advertising....	40 25
Daily News Job Print, for printing	31 00

Amounts carried forward..... \$2,766 82 \$46 602 22

Amounts brought forward..... \$2,766 82 \$46,602 22

Paid for CELEBRATION OF ONE
HUNDRED SIXTEENTH AN-
NIVERSARY OF AMERICAN
INDEPENDENCE :

To Harrington Bros., for printing	1 75	
Lowell Sun, for advertising..	23 50	
Benjamin Lenthier, for advertising	26 00	
Morning Mail Co., for advertising.. ..	53 74	
Morning Mail Corp., for printing.. ..	12 00	
Marden & Rowell, for advertising .	30 07	
Sunday Arena, for advertising	21 00	
Vox Populi Press, for advertising.. ..	22 00	
Daniel J. Kelly, for teaming	7 50	
Daniel McCarthy, for teaming.....	21 00	
T. G. Little, for teaming.....	3 00	
Wm. Roberts, for teaming	18 00	
	<hr/>	3,006 38

Paid for BAND CONCERTS :

To W. H. Brown, for services of band	80 00	
G. A. R. Drum, Fife and Bugle Corps, for services.....	40 00	
Lowell Brass Band, for services....	80 00	
Alex. Mirault, for services of French Band	80 00	
Post 120, G. A. R. Band, for ser- vices	80 00	
Frank Dunlap, for lighting band stand	5 00	
	<hr/>	365 00

Paid for SUNDRY EXPENSES OF
MILK INSPECTOR :

To Thomas O. Allen, for supplies and samples of milk.....	\$55 41	
C. S. Lilley, for professional ser- vices.....	15 00	
	<hr/>	
<i>Amounts carried forward</i>	\$70 41	\$49,973 60

<i>Amounts brought forward.....</i>	\$70 41	\$49,973 60
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Paid for SUNDRY EXPENSES OF
MILK INSPECTOR :

To W. A. Sherman, for professional services.....	15 00	
F. H. Butler & Co., for cotton.....	85	
Charles E. Carter, for soda bottles and alcohol.....	19 35	
Carleton & Hovey, for filters, alcohometer. etc.	4 00	
C. B. Coburn & Co., for benzine and tubing.....	2 68	
Eimer & Amend, for flasks, chemicals, etc.....	8 51	
Franklin Educational Co., for chemicals, etc.....	18 74	
Talbot Dyewood & Chemical Co., for nitric acid, ammonia, etc..	2 43	
H. R. Barker Manufacturing Co., for globes, valves, fittings, etc.	11 15	
T. Costello & Co., for pipe, fittings, labor, etc.	55 20	
Fairbanks Co., for weights, etc....	9 38	
M. B. V. Libbey, for water bath frame	3 00	
A. G. Pollard & Co., for bag and towels	6 17	
Irvine Block, for rent.....	116 69	
Thomas H. Lawler, for blank books, stationery, etc.....	2 45	
American Express Co., for transportation	40	
Murphy & Bingham, for carriage hire	13 00	
	<hr/>	359 41

Paid for SUNDRIES IN AS-
SESSORS' OFFICE :

To Stephen J. Kirby, for postage, telegrams, etc.....	23 35	
Edward Daïgnault, for services as interpreter.	7 00	
	<hr/>	
<i>Amounts carried forward.....</i>	\$30 35	\$50,333 01

<i>Amounts brought forward</i>	\$30 35	\$50,333 01
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Paid for SUNDRIES IN ASSESS-
ORS' OFFICE:

To Bacheller, Dumas & Co., for blank books	250 70	
Banker and Tradesman, for subscription	5 00	
Byron Boyd, for abstracts	15 50	
Eberhard Faber, for pencils	7 45	
Goodyear Gossamer Co., for rubber bands	5 84	
Thomas H. Lawler, for stationery, ink, etc	26 70	
Taylor Bros., for ink, pens, pencils, etc	15 44	
M. R. Warren, for document boxes	32 50	
W. H. H. Wood, for pens, pencils, and sharpeners	18 55	
American Express Co., for transportation	75	
Boston & Lowell Express Co., for transportation	50	
Keyes & Co., for carriage hire	1 50	
John McCaffery, for carriage hire ..	1 05	
	<hr/>	411 83

Paid for SUNDRIES:

To Appropriation for Roads and Bridges, for labor	49 12	
Appropriation for Watering Streets, for assessments	12 43	
Appropriation for Public Buildings, for labor	81 78	
Appropriation for Police, for services of officer	2 75	
Appropriation for Water Works, for water at drinking fountains	572 00	
N. E. T. and Teleg. Co., for service	199 26	
Western Union Telegraph Co., for service	25	
A. L. Brooks & Co., for lumber	44	
	<hr/>	<hr/>
<i>Amounts carried forward</i>	\$918 03	\$50,744 84

<i>Amounts brought forward</i>	\$918 03	\$50,744 84
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Paid for SUNDRIES :

To Mark Holmes Jr. & Son, for patterns	2 00	
Bartlett & Dow, for hose, nozzle, pails, trowel, etc.....	14 94	
Priest, Page & Co., for weights....	5 40	
Thompson Hardware Co., for hardware	14 70	
O. E. Averill, for blacksmithing ..	5 25	
H. R. Barker Manufacturing Co., for labor, material, etc.....	6 45	
Derby & Morse, for labor on bells	1 59	
Farrell & Conaton, for pipe, fittings, solder, etc.....	14 88	
Alvin Lawrence, for repairing detector	1 25	
W. A. Mack & Co., for tin and labor	11 38	
James T. Murray, for repairing clocks.....	3 00	
H. H. Wilder, & Co., for tin trunk, repairing cash box. etc.....	16 45	
C. Zimmer, for keyes.....	3 45	
Abels & Sons, for towels.....	6 00	
Bon Marche, for pins.....	25	
John Cross, for repairing flags....	22 50	
Charles F. Dow, for chimneys and feather dusters	18 38	
A. Monier, for towels.....	3 00	
S. M. Patterson, for decorating City Hall	10 00	
Robertson & Co., for glasses and cuspidors.....	6 40	
A. C. Skinner, for fans	1 50	
The Baker Telephone Index & Tablet Co., for indexes.....	7 00	
G. A. Andrews, Gen. Agent, for recharging vaporizers	75	
Carleton & Hovey, for soap, sponges, camphor balls, etc.....	6 75	
C. B. Coburn & Co., for brooms, brushes, waste, etc.....	81 48	
Early & Co., for lettering boxes ..	3 15	
Ellingwood & Co., for soap.....	4 20	
<i>Amounts carried forward</i>	\$1,190 13	\$50,744 84

Amounts brought forward \$1,190 13 \$50,744 84

Paid for SUNDRIES:

To Daniel Gage, for ice ..	83 20
P. M. Jefferson & Co., for soap....	30 00
A. L. Kittredge & Co., for lettering boxes.....	2 00
R. J. Lang, for soap.....	4 50
John A. Rourke, for soap.....	6 00
W. H. Spaulding & Co., for paper..	4 00
P. P. Stiles & Co., for matches and candles.....	1 27
Frank Brady, for refreshments.....	15 00
Merrimack House, for refreshments	18 40
D. L. Page Co., for refreshments....	22 15
Richardson's Hotel, for refresh- ments.....	15 40
Waverly House, for refreshments	12 40
Bacheller, Dumas & Co., for blank books, binding paper, etc.....	766 84
Bartlett & Dow, for typewriters and paper	222 35
Butterfield Printing & Binding Co., for blank books.....	6 25
Campbell & Hanscom, for adver- tising and subscription.....	37 00
Citizen Newspaper Co., for adver- tising and subscription.....	14 00
F. P. Coggeshall, for seals.....	4 00
Daily News Job Print, for printing postals, etc.....	16 80
Lowell Daily News Co., for sub- scriptions.....	12 00
Lowell Daily Courier, for subscrip- tions.....	12 00
Lowell Sun, for advertising.....	2 00
Lowell Sun Job Print, for printing	8 50
Thomas H. Lawler, for ink, station- ery, etc.....	218 57
Morning Mail Co., for subscription and advertising.....	17 00
J. Merrill & Son, for envelopes and directories	51 00
G. C. Prince & Son, for envelopes subscriptions, etc.....	51 99

Amounts carried forward \$2,844 75 \$50,744 84

Amounts brought forward..... \$2,841 75 \$50,744 84

Paid for SUNDRIES :

To Sunday Arena, for advertising.....	3 00
Taylor Bros., for ink, envelopes, etc	36 10
Vox Populi Press, for advertising..	3 50
J. M. Fellows, for rubber stamps...	2 32
John A. Gately, for typewriting...	4 30
Goodyear Gossamer Co., for rubber bands.....	3 75
F. Blanche Hard, for typewriting..	7 95
Charles Littlefield & Co, for boxes,	6 75
Henry Mitchell, for brass seal.....	4 50
F. E. Rollins, for copying ribbons,	3 75
Harry Raynes, for magnifying glass	1 00
J. L. Severance, for stamps.....	11 00
E. Sheppard & Sons, for bouquets..	4 00
N. E. Annis, for envelopes and postage	8 12
James H. Cahill, for rent of P. O. Box, telegrams, etc.....	21 18
Austin K. Chadwick, for office expenses	24 30
David Chase, for office expenses...	17 25
Michael J. Dowd, for office expenses and expenses of Registrars of Voters.....	65 57
Henry Hoole, for postage, rent of P. O. Box, etc.....	8 50
J. F. Convery, for labor.....	3 75
E. F. Hathaway, for signs and numbers.....	2 32
Middlesex Registry of Deeds, for recording.....	8 00
J. P. Thompson, for recording....	19 60
Appleton National Bank, for rent of box in safety deposit vault....	50 00
Railroad National Bank, for rent of safety deposit box.....	33 33
Commonwealth of Massachusetts, on account of liquor licenses..	28,892 75
Lowell Post Office, for stamps for City Treasurer.....	250 00
George Hedrick, for care of clock in High Street Church.....	50 00

Amounts carried forward..... \$32,391 34 \$50,744 84

Amounts brought forward..... \$32,391 34 \$50,744 84

Paid for SUNDRIES :

To J. F. Owens, for services as clerk
for Committee on Revision of
City Charter and Ordinances.. 300 00

Sundry persons, for care of ward
rooms as follows :

Thomas Condon.....	1 00
T. H. Conley.....	3 00
Patrick Donohoe.....	17 50
Peter Garrity.....	2 00
Thomas Haunafin.....	6 00
A. A. Laughton.....	2 00
John Manchester.....	45 00
John F. Merrill.....	31 00
Frank O'Rielly.....	36 00
Daniel Reynold.....	2 00
Dennis W. Sheehan.....	1 00
John F. Sparks.....	3 00
George Teel.....	17 00
Michael Walsh	38 00

Dennis J. Crowley, for services as
census enumerator..... 24 10

John Danahy, for services as census
enumerator 64 30

Frank Danahy, for services as census
enumerator..... 28 30

Thomas H. McCullough, for services
as census enumerator..... 39 20

Wm. W. Reed, for services as
census enumerator..... 16 40

James Welch, for services as census
enumerator..... 20 60

Theodebase Merchant, for services
as interpreter..... 14 30

The following persons, for report-
ing births :

Solon Bartlett.....	10 50
Wm. Bass.....	50
G. J. Bradt	1 00
H. R. Brissett.....	2 75
H. A. Chaput.....	3 75

Amounts carried forward..... .. \$33,121 54 \$50,744 84

Amounts brought forward \$33,121 54 \$50,744 84

Paid for SUNDRIES:

To the following persons, for reporting births:

F. W. Chadbourne.....	25
J. E. Contre	75
Pacifique Contre.....	1 25
Cornelius A. Daly.....	21. 50
J. D. Delisle.....	7 00
W. G. Eaton.....	6 75
James B. Field.....	75
Warren S. Foss.....	3 00
J. Arthur Gage.....	1 00
J. A. Gagnon.....	5 75
A. A. Gellineau	23 75
A. E. Gillard.....	75
J. W. Grady.....	8 75
H. F. Hall.....	1 25
A. J. Halpin.....	1 50
T. F. Harrington.....	8 25
E. Hill.....	25
Guy Holbrook	4 25
Wm. B. Jackson.....	3 25
Wm. A. Johnson.....	2 25
H. P. Jefferson....	1 50
Mary Kenney.....	1 25
Wm. H. Lathrop.....	18 25
Wm. P. Lawler	26 25
A. W. Livigne.....	19 75
C. H. Leland.....	4 00
Catherine Loftus.....	6 75
Sarah Mason.....	50
Mary McAnanney.....	1 00
A. and R. Mignault.....	40 00
W. R. Morrow	1 50
Mary Noel.....	49 75
J. B. O'Connor.....	75
E. H. Packer.....	25
D. N. Patterson.....	3 00
George H. Pillsbury.....	25
George E. Pinkham.....	50
O. P. Porter.....	4 00
C. H. Ricker	3 25

Amounts carried forward..... \$33,406 29 \$50,744 84

Amounts brought forward..... \$33,406 29 \$50,744 84

Paid for SUNDRIES :

To the following persons, for reporting births:

E. H. Ross.....	75
L. E. Schiller.....	7 25
Catherine Shanley.....	25 50
S. P. Smith.....	25
James F. Sullivan.....	27 75
Charles W. Taylor.	1 00
E. W. Trueworthy.....	1 50
C. L. Woods.....	2 75
J. B. Wentworth	2 50
J. B. Currier, for burial of Aaron Andrews	35 00
James A. Keyes, for burial of John Leary and James Shields.....	70 00
James H. McDermott, for burial of M. Conway.....	30 00
James F. O'Donnell, for burial of Joseph F. Carroll and J. F. Gaffney.....	70 00
John F. Rogers, for burial of James Caskin.....	35 00
John A. Weinbeck, for burial of William H. Kidder and Charles Whitney.....	68 50
C. M. Young & Co., for burial of James McOwen.....	35 00
J. W. Bennett & Co., for tarred paper.....	8 72
Boston & Maine Railroad, for mileage tickets.....	60 00
Stanton & Thurston, for watering Streets.....	4 50
J. A. Chase, for carriage hire	14 50
P. H. Heelon, for carriage hire....	8 00
Thomas J. Husband, for carriage hire	5 50
Thomas H. Keefe, for carriage hire	3 00
John McCaffrey, for carriage hire..	112 50
John F. McGovern, for carriage hire.....	31 00

Amounts carried forward..... \$31,066 76 \$50,744 84

Amounts brought forward..... \$31,066 76 \$50,744 84

Paid for SUNDRIES:

Morse & Sparks, for carriage hire..	36 50	
Murphy & Bingham, for carriage hire	57 85	
J. H. Sparks, for carriage hire.....	75 00	
Jerome Tighe, for carriage hire	2 00	
American Express Co., for transportation	10 14	
Boston & Lowell Express Co., for transportation.....	25	
E. Judge, for transportation.....	1 00	
Daniel F. Lyons, for teaming.....	50	
Daniel McCarthy, for teaming.....	8 00	
E. E. Stoughton, for teaming.....	43 00	
	<hr/>	31,300 50

Total expenditure for the year 1892.... \$85,045 34

TRANSFERS.

To Appropriation for School Houses...	8,000 00	
Appropriation for Roads and Bridges	3,000 00	
Appropriation for Watering Streets	5,000 00	
Appropriation for Commons	2,500 00	
Appropriation for Printing and Advertising....	2,500 00	
Appropriation for Lighting.....	8,000 00	
Appropriation for Public Buildings	11,500 00	
Appropriation for Health.....	8,000 00	
Appropriation for Salaries.....	10,000 00	
	<hr/>	59,500 00
		31,300 50
Balance undrawn, Dec. 31. 1892.....		6,000 00
		<hr/>
		\$96,800 43

PAUPERS.

Balance undrawn Jan. 1, 1892.....	\$13,563 96	
Appropriation.....	55,000 00	
	<hr/>	\$58,563 96

RECEIPTS.

Received into the Treasury on account
of PAUPERS:

From Appropriation for Schools, for wood	592 38	
Appropriation for Roads and Bridges, for wood.....	2 00	
Appropriation for Reserved Fund, for coal and wood.....	31 25	
Appropriation for Police, for wood.....	14 00	
Appropriation for Fire Depart- ment, for wood.....	42 80	
Appropriation for Lighting, for coal.....	8 00	
Appropriation for Health, for wood.....	4 00	
Appropriation for Water Works, discount on bills.....	81 55	
Commonwealth, for support of paupers (U. S. cases).....	191 79	
Commonwealth, for support of State paupers.....	997 09	
Commonwealth, for temporary support of State paupers .	185 84	
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<i>Amounts carried forward</i>	\$2,150 70	\$58,563 96

<i>Amounts brought forward</i>	\$2,150 70	\$58,563 96
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Received into the Treasury on account
of PAUPERS:

From Commonwealth, for burial of State paupers.....	385 00	
County of Middlesex, for board of Rose McAndrews, Mary J. Mullen and Nora White at Work house.....	94 85	
City of Boston, for aid rendered Mary Buse, Mary Murphy, Elizabeth Shaw, Patrick Dwyer, R. Edwards and family, John Mainfield, Thomas J. McNulty	114 44	
City of Chelsea, for aid rendered William F. Avery, James Sullivan and John White, board and clothing of George H. Burns, Thomas E. Downey, Dennis J. Donohue, James Post and John Quinn at Re- form School.....	391 05	
City of Chicopee, for aid rendered Ellen White and Thomas Daughy, and burial of child of Mary Connolly.....	9 00	
City of Fall River, for aid ren- dered Thomas Lynch, Daniel M. Cuddy, John F. Martin and family, William Looney and James Conners.....	108 10	
City of Fitchburg, for aid ren- dered Dennis Archambault alias Chambreau and Martin Rock	10 71	
City of Holyoke, for aid rendered Jesse Walsh.....	13 50	
<i>Amount carried forward</i>	\$3,277 85	\$58,563 96

Amounts brought forward \$3,277 35 \$58,563 96

Received into the Treasury on account
of PAUPERS:

From City of Lawrence, for aid rendered Mary Burns, Mary E. Davis, Ellen Daily and Son, Annie Donovan, Barbara Donovan, Mary Doyle, Emma Kenny, Mrs. Benjamin Leblanc, Nellie Logan, Mary O'Shea, Sumner P. Wyman, John F. Connell and family, Hugh C. Kane and family, Samuel Mack and Louis Martel....	243 96
City of Malden, for board and clothing of Maggie McArthur, Jerry J. Cohen, Fred Mc Arthur, Phillip Murray, Wil- liam Olson and John O'Brien	494 18
City of Newton, for aid rendered Mary A. Doherty.....	92 25
City of Newburyport, for aid ren- dered Martin H. Cogger....	35 35
City of Somerville, for board and clothing of Patrick Kelly, James Ryan, Bernard Scan- nell and John Welch at Re- form School.....	241 42
City of Waltham, for aid rendered children of Edward Vallely, and board and clothing of George Barden, Walter R. Doe and Michael Fahey at Reform School.....	288 30
City of Worcester, for aid ren- dered children of Mary E. Hogan	124 85
Town of Acton, for aid rendered Lillian, Mary and Maud Kingsley.....	171 21
Town of Amesbury, for aid ren- dered Thomas Burke.....	1 71

<i>Amounts carried forward</i>	<hr/> \$4,970 58	<hr/> \$58,563 96
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Amounts brought forward..... \$4,970 58 \$58,536 96

Received into the Treasury on account
of PAUPERS:

From Town of Andover, for aid rendered John F. Dorsey and John Kennedy	19 21	
Town of Arlington, for board and clothing of Michael and Jerry Coursey at Reform School..	273 16	
Town of Billerica, for aid rendered Mrs. Fred. Mallison, Emma Riley and family and Daniel W. Murphy.....	122 73	
Town of Blackstone, for aid rendered Eugene Moriarty.....	17 60	
Town of Canton, for aid rendered Kate Daniel and son	32 57	
Town of Chelmsford, for aid rendered Kate Ward and family and Fred. A. Russell and family.....	21 20	
Town of Chesterfield, for aid rendered John Kittredge.....	3 57	
Town of Clinton, for aid rendered Maggie Reedie and Eliza Smith.....	20 14	
Town of Cohasset, for aid rendered Mrs. Wm. F. Harris and family.....	203 75	
Town of Concord, for aid rendered Mrs. Michael Holland	7 30	
Town of Danvers, for aid rendered Mrs. Wm. Henderson..	15 00	
Town of Dracut, for aid rendered Eliza Rule, services of physician and use of ambulance...	7 00	
Town of Grafton, for aid rendered Victor Benoit, Noah Parent,	50 56	
Town of Lancaster, for aid rendered Angelina Cook.....	75 63	
Town of Littleton, for aid rendered William D. Cronin....	7 25	
Town of Lynnfield, for aid rendered George A. Abbott....	29 75	

<i>Amounts carried forward</i>	\$5,877 00	\$58,563 96
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<i>Amounts brought forward</i>	\$5,877 00	\$58,563 96
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Received into the Treasury on account
of PAUPERS:

From Town of Mansfield, for aid rendered David Haney.....	7 14	
Town of Milbury, for aid rendered Orrin L. Bonzey.....	3 57	
Town of Natick, for aid rendered Ella Witherell and Joseph Rosseter.....	67 00	
Town of Northampton, for aid rendered Michael Hurley....	12 00	
Town of Northfield, for aid rendered John Whitney.....	38 57	
Town of Randolph, for aid rendered Annie R. Bunberry....	66 00	
Town of Shirley, for aid rendered Robert Fagin.....	8 00	
Town of Southboro, for aid rendered S. O. Taylor.....	3 50	
Town of Stoneham, for aid rendered Sarah C. McCrann....	4 00	
Town of Stoughton, for aid rendered J. H. Clark.....	6 50	
Town of Stowe, for aid rendered Mary A. Fogg.....	51 90	
Town of Tewksbury, for aid rendered Mrs. Anthony McDonald and Joseph McCoy....	40 81	
Town of Wall, for aid rendered Ellen O'Rourke and J. W. Leduc and family.....	3 54	
Town of Watertown, for board and clothing of Frank Marion at Reform School.....	20 49	
Town of Wayland, for aid rendered Margaret Sumpter....	2 00	
Town of Webster, for board and burial expenses of Delia Kane	75 00	
Town of West Springfield, for burial of child of Julia Conners.....	5 00	
<i>Amounts carried forward</i>	<u>\$6,292 02</u>	<u>\$58,563 96</u>

Amounts brought forward \$6,292 02 \$50,744 84

Received into the Treasury on account
of PAUPERS:

From Town of Westford, for aid rendered Nellie Casey, Bridget Larkin and Thomas O'Farrell	6 82	
Town of Weymouth, for aid rendered Mary Handley.....	1 50	
Town of Wilmington, for board and clothing of Robert Cloran at Reform School.....	8 20	
Albert Pinder, for sales from farm.....	1,839 87	
C. H. Richardson, for State Aid of M. Bradley, T. Doyle and Morty Scully, board of Catherine Finnerty, use of ambulance and telephone.....	290 18	
Michael Sexton, for sale of horse and use of telephone.....	100 75	
J. L. Chalifoux, for over-draft ..	15 00	
Thomas P. Casey, cash returned to Treasury	7 00	
Patrick Doherty, cash returned to Treasury.....	6 00	
Mrs. William Henderson, cash returned to Treasury.....	6 00	
Singer Manufacturing Co., for over-draft.....	1 80	
F. A. Buttrick, Guardian, for board of David Moore, at Almshouse	130 72	
George Bowers, Guardian, for support of Sarah Moulton at Taunton Lunatic Hospital..	19 50	
A. Y. Caswell, for support of Mary A. Caswell at Worcester Lunatic Hospital.....	169 92	
James Cowell, for board of Wm. Cowell at Almshouse.....	130 72	
Mrs. Peter Cassidy, for support of Peter Cassidy at Worcester Lunatic Hospital.....	135 08	
<i>Amounts carried forward</i>	<u>\$9,161 08</u>	<u>\$58,563 96</u>

Amounts brought forward..... \$9,161 08 \$58,563 96

Received into the Treasury on account
of PAUPERS:

From Flora E. Dunlap, for support of Lusylvia T. Bartlett at Worcester Lunatic Hospital	169 92
John A. Fletcher, for board of Ellen W. Fletcher at Alms- house.....	54 00
Dudley Foster, for board of Sarah Cutler at Almshouse.....	7 86
Est. Michael Gorman, for support of Michael Gorman at Worces- ter Lunatic Hospital and Lowell Almshouse.....	186 03
Thomas Gray, for board of Ellen Gray at Almshouse.....	130 72
Est. Elbridge Livingston, for board of Albert Livingston at Almshouse.....	48 75
Philip McNulty, for board of James McNulty at Alms- house	2 00
Mechanics Lodge I. O. O. F., for board of Wm. Horne at Alms- house.....	60 36
Est. Mrs. Jos. Neal, for board of Jos. Neal at Almshouse....	130 72
George F. Offutt, for support of Fanny A. Sargent at Danvers Lunatic Hospital.....	84 96
John Pearson, for support of Sarah Pearson at Danvers Lunatic Hospital.....	169 92
Charles H. Richardson, for board of Charles W. Stearns at Almshouse and Worcester Lunatic Hospital.....	137 96
Henry G. Sturtevant, for support of Ada F. Sturtevant at Worcester Lunatic Hospital	32 50
F. H. Penniman, for board of Hannah Penniman at Alms- house	130 72

Amounts carried forward \$10,507 50 \$58,563 96

Amounts brought forward..... \$10,507 50 \$53,563 96

Received into the Treasury on account
of PAUPERS:

John C. Wilbour, for board at Boston City Hospital.....	12 00	
John C. Woodward, for support of George F. Woodward at Danvers Lunatic Hospital..	84 96	
Amasa Pratt & Co., for over draft	5 90	
Lowell Institution for Savings, on loan.....	20,000 00	
	<hr/>	30,610 36
		<hr/>
		<u>\$89,174 32</u>

EXPENDITURES.

Paid SECRETARY OF BOARD
OF OVERSEERS OF THE
POOR:

To Charles H. Richardson, Secretary, salary	\$1,300 00	
	<hr/>	\$1,300 00

Paid for SERVICES AT ALMS-
HOUSE:

To Albert Pinder, Superintendent, sal- ary.....	\$2,027 47	
William A. Lang, Chaplain and Teacher, salary.....	1,419 48	
O. L. Gaudette, Teacher, salary....	572 04	
Sundry persons, for labor.....	5,656 84	
	<hr/>	9,675 83

Paid for FUEL AT ALMSHOUSE:

To Edward Cawley, for coal.....	\$3,452 11	
William E. Livingston, for charcoal,	60	
	<hr/>	3,452 71
<i>Amount carried forward</i>		<u>\$14,428 54</u>

<i>Amount brought forward</i>		\$14,428 54
Paid for GRAIN, GROCERIES, PROVISIONS, ETC.:		
To G. A. Coburn, for hay.....	19 50	
Conners Bros., for hay.....	18 12	
W. P. Foy, for meal, middlings, etc	463 88	
William E. Livingston, for oats, meal, middlings, etc.....	1,338 95	
Joseph Miller, for oats, meal, mid- dlings, etc.....	526 92	
E. J. Noyes, for hay.....	10 08	
E. N. Wood & Co., for salt, scraps, corn, etc.....	755 42	
G. J. & D. Bradt, for crackers.....	410 25	
Chase & Sanborn, for coffee.....	490 00	
D. W. Clement, for honey, syrup, butter, etc.....	37 35	
Edward Cryan, for fruit.....	11 19	
S. K. Dexter, for eggs, butter and potatoes.....	155 28	
E. F. Dickinson, for cider.....	12 50	
Donovan & Co., for flour, tea, etc.	3,820 70	
Farley's Cash Grocery, for tobacco	70 50	
F. Harris, for cider and ginger ale	23 44	
J. D. Hartwell & Co., for vegetable compound, groceries, etc.....	177 84	
Henry Hatch, for eggs, butter, etc	259 53	
W. H. I. Hayes, for tobacco.....	478 77	
Haynes, Hanchett & Co., for butter	48 45	
P. Keyes Jr., for sugar.....	793 87	
Kilpar rick Bros., for fruit, etc....	101 09	
George F. Libby, for potatoes.....	8 50	
Nichols & Co., for tea and molasses	627 15	
G. N. & E. Nichols, for butter, etc.	179 67	
Wm. Nichols & Co., for groceries	850 41	
D. L. Page Co., for ice cream, rolls, etc.....	6 38	
S. C. Patrick, for snuff.....	5 00	
Savage Bros., for groceries.....	26 70	
Simpson & Rowland, for groceries	187 58	
C. F. Smart & Co., for groceries...	7 55	
Caleb L. Smith, for groceries.....	158 11	
United States Tea Co, for coffee..	98 60	
<i>Amounts carried forward</i>	\$12,179 28	\$14,428 54

Amounts brought forward \$12,179 28 \$14,428 54

Paid for GRAIN, GROCERIES,
PROVISIONS, ETC.:

To Allen's Cash Market, for provisions	20 70	
J. Edward Burns, for provisions...	30 52	
M. Corbett, for provisions.....	1,015 58	
Daniel Cosgrove, for beef.....	6 25	
D. J. Donovan, for provisions.....	12 00	
Henry J. Farrell, for provisions....	4 40	
John M. Farrell, for provisions....	3 85	
John Flynn, for beef.....	42 00	
G. M. Foster, for eggs, butter, potatoes, etc.....	2,345 02	
William J. Garvey, for provisions,	14 88	
Hall, Perham & Co., for beef.....	233 53	
Jewett & Swift, for beef, pork, etc	727 15	
Johnson Bros., for provisions.....	56 41	
P. J. Linnehan, for provisions....	25 55	
J. J. McCarthy, for provisions....	271 93	
T. J. McCarthy, for provisions....	23 95	
Alexander Miles, for beef.....	19 44	
New Washington Market, for provisions	71 25	
William T. Patten, for provisions..	542 57	
Parker & Hall, for butter etc.....	43 92	
Public Market & Packing Co, for beef.....	307 21	
M. J. Roughan & Co., for provisions,	500 11	
Sheehan's Cash Market, for provisions	41 15	
James Sheehy, for beef.....	56 00	
A. G. Thompson & Co., for provisions	79 81	
F. A. Tuttle, for provisions.....	1,466 44	
Union Market, for provisions.....	11 11	
J. M. Wilson & Co., for beef.....	539 89	
Howe & Marden, for curing hams	4 50	
J. A. Baker, for fish.....	36 06	
Bay State Packing Co., for fish....	8 50	
Caswell, Livermore & Co., for fish.....	291 30	
M. B. Randlett for fish.....	127 03	
J. A. Stubbs, for clams.....	18 00	

Amounts carried forward \$21,177 29 \$14,428 54

Amounts brought forward \$ 21,177 29 \$14,458 54

Paid for GRAIN, GROCERIES,
PROVISIONS, ETC.:

To B. F. Witham, for fish.....	332 50	
Fleischman & Co., for yeast	114 50	
William J. Burbeck, for milk.....	294 39	
Peter Henderson & Co., for seed...	44 85	
	<hr/>	21,963 53

Paid for CLOTHING, DRY GOODS,
ETC.:

To Bon Marche, for dry goods, crock- ery, etc.....	\$117 31	
Boulger & McOsker, for shoes.....	89 50	
J. L. Chalifoux, for clothing.....	15 00	
Cook, Taylor & Co., for dry goods	919 66	
A. Monier, for dry goods.....	78 49	
O'Donnell & Gilbride, for dry goods	142 80	
A. G. Pollard & Co., for dry goods	506 42	
Putnam & Son, for clothing.....	967 02	
Shaw Stocking Co., for stockings..	230 44	
Willard A. Brown, for leather, etc.	62 17	
Goodyear Gossamer Co., for over- shoes.....	6 30	
A. M. Huntoon & Co., for shoes...	241 75	
C. A. Mitchell & Co, for boots and shoes.....	259 70	
O'Sullivan Bros., for boots and shoes.....	154 43	
	<hr/>	3,790 99

Paid for DRUGS, MEDICINES ETC.

To C. F. Blanchard, for medicines....	33 25	
Carleton & Hovey, for medicines...	230 07	
A. B. Chapman, for medicines.....	32 00	
Albert Crowell, for medicines.....	4 50	
P. Dempsey & Co., for alcohol.....	105 75	
C. W. Lerner, for disinfectant.....	12 50	
	<hr/>	418 07
<i>Amount carried forward</i>		<hr/> \$4,0601 13

Amount brought forward \$40,601 13

Paid for SUNDRIES AT ALMS-
HOUSE:

To Appropriation for Roads and Bridges, for sidewalk assessment, Chelmsford Street.....	\$173 80	
Appropriation for Water Works, for pipe, fittings and labor....	144 33	
Appropriation for Water Works, for water	1,335 45	
Lowell Gas Light Co., for gas.....	740 08	
Lowell Gas Light Co., for gas range and fittings.....	104 89	
N. E. T. & Teleg. Co., for service..	35 10	
A. L. Brooks & Co., for lumber....	15 98	
Burnham & Davis, for lumber....	470 58	
Howe Lumber Co., for lumber....	86	
Amasa Pratt & Co., for lumber....	7 79	
Charles E. Adams, for hardware..	61 81	
American Bolt Co., for bolts, plates, etc.	161 00	
Bartlett & Dow, for hardware, tools, etc.....	312 46	
Boutwell Bros., for iron, steel, etc.	12 19	
Samuel G. Cooper, for stencil plates,	5 75	
H. R. Barker Manufacturing Co., for pipe, fittings, labor, etc....	32 59	
Champion Flue Scraper Co., for scrapers	3 75	
T. Costello & Co., for tin, solder, copper, etc.....	197 57	
Derby & Morse, for labor on bells,	3 72	
Farrell & Conaton, for hose.....	12 50	
William A. Hardy, for castings....	1 38	
S. H. Jones, for pipe, fittings, labor, etc.....	53 63	
Rice & Co., for wire cloth.....	31 08	
John Ryan, for composition.....	1 65	
Scannell & Wholly, for boiler, castings, labor, etc.....	777 09	
Singer Manufacturing Co., for sewing machine.....	30 00	
J. W. Stewart, for pipe, fittings and labor	15 66	
<i>Amounts carried forward</i>	\$4,742 69	\$40,601 13

<i>Amounts brought forward</i>	\$4,742 69	\$40,601 13
Paid for SUNDRIES AT ALMS- HOUSE:		
To The Fairbanks Co., for scale.....	25 00	
Union Brass Foundry, for composi- tion.....	2 70	
Apsley Rubber Co., for sheeting and sprinkler.....	5 28	
John F. Bowditch, for brushes....	38 85	
J. J. Chuin, for spectacles.....	8 00	
Charles F. Dow, for glass ware and crockery, etc.....	162 27	
A. Eaton & Son, for refrigerator, carpet lining, etc.....	32 20	
C. H. Frost, for spectacles.....	6 50	
Josiah Gates & Sons, for lacings...	90	
M. F. Gookin, for furniture, etc...	94 50	
Goodyear Gossamer Co., for rubber, tubing, etc	6 56	
L. W. Hawkes & Co., for mattresses, furniture, etc.....	163 00	
A. L. Kittredge & Co., for labor, shades, etc.....	44 44	
Lamson & Moulton, for hoods, hose, etc	136 92	
Lamson & Pinder, for toys, books, crockery, etc.....	11 34	
Alvin Lawrence, for clock and re- pairing.....	16 80	
Lowell Rubber Co., for blankets, sheeting, etc.....	48 08	
Martin & Langley, for tin ware....	19 25	
Putnam & Spooner, for iron bed- steads.....	379 20	
W. H. Spaulding & Co., for glass, paper, labor, etc.....	21 62	
D. W. Clement, for services as ap- praiser	50 00	
James Marren, for services as ap- praiser	58 00	
George A. Murphy & Co., for services as appraisers.....	50 00	
B. E. Myers, for typewriting.....	5 00	
<i>Amounts carried forward</i>	\$6,129 10	\$40,601 13

<i>Amounts brought forward</i>	\$6,129 10	\$40,601 13
Paid for SUNDRIES AT ALMS- HOUSE:		
To Robert E. Bell, for professional services.....	10 00	
Charles H. Ricker, for professional services.....	3 00	
Albert Pinder, for travelling expenses, etc.....	344 78	
B. & M. R. R., for mileage books	40 00	
A. Y. Caswell, for mileage books...	60 00	
E. T. Abbott, Agt., for insurance...	22 50	
James Marren, for insurance.....	79 25	
Baker Telephone Index and Tablet Co., for index.....	3 50	
F. Blanche Hard, for typewriting..	1 47	
Lowell Daily Courier, for subscription	6 00	
J. Merrill & Son, for books, stationery, etc.....	115 20	
G. C. Prince & Son, for stationery	6 40	
G. A. Andrews, Agt., for carbol cressole	4 00	
R. W. Carmen, for disinfectant....	19 25	
C. B. Coburn, for oil, lead, putty, brushes, etc.....	189 62	
C. G. Coburn, for guano.....	72 00	
A. C. Daniels, for medicine for horses	6 00	
W. A. Dickinson, for soap.....	273 41	
Daniel Gage, for ice.....	145 18	
Harris & Wilkins, for ginger ale	11 25	
Wm. P. Miller Co., for oil.....	3 00	
Henry S. Perham, for making cider	11 77	
Talbot Dyewood & Chemical Co., ammonia, etc.....	254 85	
The Barney Co., for soap.....	20 00	
J. W. Bennett & Co., for roofing composition	10 26	
Edward Cawley, for drain pipe....	218 33	
Daniel Cleary, for mason work and material	34 00	
C. F. Foss & Co., for mason work and material.....	57 34	
<i>Amounts carried forward</i>	\$8,151 46	\$40,601 13

Amounts brought forward..... \$8,151 46 \$40,601 13

Paid for SUNDRIES AT ALMS-
HOUSE:

To George R. Hutchins, for labor....	55 90	
Wm. E. Livingston, for lime, kaolin and cement.....	129 43	
Staples Bros., for drain pipe.....	1 85	
Town of Chelmsford, tax of 1892..	36 55	
Chelmsford Pickling Works, for slaughtering	69 00	
Robert Mills, for hogs	35 00	
A. W. Baker, for professional ser- vices	10 00	
J. H. Sparks, for professional ser- vices	22 00	
Jesse A. Viles, for professional services.....	16 50	
George F. Allen, for repairing harnesses, etc	66 15	
T. M. Bolton & Co., for harness and breast plate.....	52 50	
M. V. B. Libbey, for shoeing horses,	149 20	
Sawyer Carriage Co., for buggy, re- pairing carriages, etc	413 53	
D. W. Clement, for trees	20 90	
Warren Heustis & Son, for swine..	150 00	
Charles Clapp, for horse.....	285 00	
P. H. Heelon, for carriage hire....	13 00	
Thomas J. Husband, for carriage hire.....	8 00	
J. McCaffrey, for carriage hire....	9 00	
American Express Co., for trans- portation.....	55	
Boston & Maine Railroad, for trans- portation.....	10 35	
Boston & Maine Railroad, Western Division, for transportation..	2 34	
Boston & Maine Railroad, Southern Division, for transportation..	5 75	
	<hr/>	9,713 96
<i>Amount carried forward</i>		<hr/> \$50,315 09

<i>Amount brought forward</i>		\$50,315 09
Paid on ACCOUNT OF DISPENSARY:		
To William H. Sheehan, for services, laundering, etc.....	\$138 10	
Joseph W. Litch, for services, postage, etc.....	778 82	
Lowell Gas Light Co., for labor and use of gas stove.....	5 11	
Clinton L. Bruce, for plasters.....	5 00	
Carter, Carter & Kilham, for drugs and medicines.....	492 82	
A. Crowell, for drugs and medicines	262 79	
P. Cumiskey Co., for liquors ...	229 05	
P. Dempsey & Co., liquors	273 00	
Ellingwood & Co., for corks, medicines, etc.....	75 28	
John I. Gibson & Co., for splints and medicines.....	64 08	
F. C. Goodale & Co., for medicines, etc	143 66	
P. Lynch, for liquors.....	108 63	
B. W. O'Neil & Co., for medicines, etc	135 78	
Palace Pharmacy, for medicine....	4 65	
Rozen & Cohen, for corks.....	2 00	
Buttrick & Co., for soap, soapine, waste, etc....	6 57	
C. B. Coburn & Co., for oil, brush, twine, shellac. etc.....	5 69	
Simpson & Rowland, for sugar, soda, etc.....	16 84	
Bartlett & Dow, for hardware.....	4 45	
L. A. Derby, for carbons and zines,	2 25	
Eastern Electric Light and Storage Battery Co., for zines.....	25	
Lowell Rubber Co., for tubing....	1 04	
Thomas H. Lawler, for stationery,	10 05	
J. Merrill & Son, for stationery..	1 70	
L. W. Hawkes & Co., for repairing chairs	12 00	
O'Donnell & Gilbride, for cotton cloth	5 40	
W. P. Foye, for flax-seed meal....	10 66	
<i>Amounts carried forward</i>	\$2,795 67	\$50,315 09

Amounts brought forward..... \$2,795 67 \$50,315 09

Paid on ACCOUNT OF DISPENSARY:

To Boston & Maine Railroad, Southern Division, for transportation...	45
Hugh Armstrong, for services as driver of Ambulance.....	85 00
George B. McKenna, for services as driver of Ambulance.....	728 00
David Ready, for services as driver of Ambulance.....	668 56
Charles H. Ricker, for services as Ambulance physician.....	141 57
Appropriation for Roads and Bridges, for repairing harness,	80
N. E. Tel. & Teleg. Co., for rental of private line.....	55 84
N. E. Tel. & Teleg. Co., for service,	266 13
N. E. Tel. & Teleg. Co., for construction of private line.....	76 10
Michael J. Burns, for constructing private line.....	100 60
Henry Tyler, for surgical operating cases	50 00
Amasa Pratt & Co., for doors.....	2 80
Bartlett & Dow, for hand cuffs, pulleys, etc.....	5 31
Thompson Hardware Co., for pulleys and cord.....	1 44
Carleton & Hovey, for sponges....	10 15
C. B. Coburn & Co., for globe, reflector, etc.....	68
Eagle Harness and Leather Oil Co., for oil.....	1 60
Goodale & Co., for sponges and liniment	1 65
Rose Armstrong, for laundering....	3 33
Lowell Laundry, for laundering....	2 50
Mrs. George B. McKenna, for laundering.....	5 00
Paris Laundry, for Laundering....	5 20
Crosby Invalid Furniture Co., for gears and lifting bands.....	11 00
John Cross, for stretcher.....	3 00

Amounts carried forward \$5,022 38 \$50,315 09

Amounts brought forward \$5,022 38 \$50,315 09

Paid on ACCOUNT OF DISPENSARY:

To L. W. Hawkes & Co., for mattress	14 00	
Lowell Rubber Co., for gloves and blankets	15 72	
A. G. Pollard & Co., for cotton cloth	4 95	
Bachelor, Dumas & Co., for book	5 75	
Dennis Murphy, for framing cards	30 00	
W. P. Foy, for oats, meal, shorts	35 57	
W. A. Sherman, for professional services.....	1 50	
T. M. Bolton, for harness and repairing	109 20	
Thomas Clark, for repairing ambulance	90 00	
Sawyer Carriage Co., for repairing ambulance.....	9 25	
H. J. O'Dowd & Co., for condition powders	1 50	
	<hr/>	5,339 82

Paid for SERVICES OF PHYSICIANS OUT OF ALMS-HOUSE:

To W. G. Eaton.....	\$116 00	
A. E. Gillard.....	16 66	
J. W. Grady	93 97	
A. J. Halpin.....	157 00	
Leonard Huntress.....	5 00	
J. C. Irish.....	35 00	
W. A. Johnson.....	139 00	
T. E. McOwen.....	28 99	
L. J. McDonough.....	80 97	
Charles H. Ricker.....	178 25	
	<hr/>	850 84

Paid for COFFINS, INTERMENTS, ETC.:

To Appropriation for Public Buildings, for coffins.....	\$611 00	
<i>Amounts carried forward</i>	<hr/> \$611 00	<hr/> \$56,505 75

Amounts brought forward \$611 00 \$56,505 75

Paid for COFFINS, INTERMENTS,
ETC.:

To Sundry persons, for interments, as
follows:

Felix Albert.....	16 00	
Joseph Albert.....	8 00	
J. W. Brooks.....	94 00	
J. S. Bourbon.....	61 00	
C. T. Chamberlin.....	6 00	
Peter Davey.....	99 75	
E. H. Duprez.....	4 00	
James A. Keyes.....	78 00	
J. H. McDermott.....	24 00	
James F. O'Donnell.....	74 00	
J. F. Rogers	19 50	
John A. Weinbeck.....	3 00	
	<hr/>	1,098 25

Paid for LABOR, FUEL, ETC., AT
WOOD YARD:

To Sundry persons, for labor.....	\$3,241 25	
Appropriation for Roads and Bridges, for weighing coal...	4 49	
Appropriation for Watering Streets, for assessments.....	11 63	
Appropriation for Public Buildings, for lumber and labor... ..	9 35	
Appropriation for Health, for re- pairing harnesses.....	17 00	
Appropriation for Water Works, for water	21 00	
Edward Cawley, for coal.....	527 42	
Daniel Gage, for wood and ice....	960 48	
Dennis Leblanc, for wood.....	176 31	
Enoch Mills, for wood.....	297 00	
Bartlett & Dow, for hardware, tools, etc	16 52	
	<hr/>	
<i>Amounts carried forward</i>	\$5,282 45	\$57,604 00

Amounts brought forward \$5,282 45 \$57,604 00

Paid for LABOR, FUEL, ETC., AT
WOOD YARD :

To Edward Cawley, for pipe and labor,	10 24	
John Callaghan, for glass and boiler.....	1 85	
Offutt & Whittaker, for grates, wrench, etc.....	1 15	
C. B. Coburn & Co., for baskets...	53 25	
Garner & Nichols, for oil, soap and wicks.....	4 15	
P. Keyes, Jr., for mops and soapine	42	
C. H. O'Donnell, for oil, brooms and matches.....	1 85	
F. A. Riley, for oil, soap and matches.....	5 12	
T. M. Bolton & Co., for repairing harnesses	6 85	
J. C. Donovan, for harnesses and repairing	87 80	
C. H. Hanson, for whip, brush, etc.	8 25	
H. J. O'Dowd & Co., for condition powders.....	1 00	
Sawyer Carriage Co., for repairing carriage	50	
C. Crevier, for blacksmithing.....	60 50	
O. K. Dexter, for shoeing horses...	17 60	
T. J. Reynolds, for shoeing horses	83 15	
Thomas H. Lawler, for stationery..	60	
A. W. Baker, for professional services.....	14 00	
W. A. Sherman, for professional services	1 50	
G. M. Foster, for hay and straw...	257 74	
W. P. Foy, for oats, hay, etc....	75 83	
T. J. McDonald, for oats, corn, etc	69 74	
O. D. Wilder, for grain	36 30	
Charles Clapp, for horse and use of horse	260 00	
Murphy & Bingham, for use of horse	35 00	
		6,376 84
<i>Amount carried forward</i>		\$63,980 84

<i>Amount brought forward</i>	\$63,980 84
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Paid for SUPPORT OF SUNDRY
PERSONS OUT OF ALMS-
HOUSE:

To Commonwealth, for support of Sun- dry persons, as follows: In Danvers Lunatic Hospital, Charlotte K. Knowles, Hannah Kershaw, James A. Pierce. In Worcester Lunatic Hospital, Delina Bastien, Annie Carr, Adelaide Ducharme, Nora Har- rington, Angeline Landry, Bridget Powers, Lillian F. Sar- gent, Mary A. Sanderson, Kate Sullivan, Delina Tailley, Eliza- beth Waterson, George Bailey, Anson H. Bruce, Oliver A. Charters, John H. Getchett, James D. Hodge, Patrick Ker- rigan, Michael J. McDermott, David E. Mooney, James Quinn Jr., Frank H. Robinson, Eugene C. Sullivan. In West- boro Insane Hospital, Marie Bowen, Oscar L. Cambridge. In Taunton Lunatic Hospital, Ann Moriarty, Henry D. Brooks, In State Farm (in- sane) James Commerford, Michael O'Mealey, Edwin Stott, John H. Ward. In State Alms- house, Rose K. Cameron, Nora Duffy, Georgianna F. Harris, Ann Neilon, Ellen Webber, Mary Whittig, Wallace Baker, Bradford G. Berry, Irving Joyce, John McMahon and John Rand. In School for Feeble Minded, Charles F. San- derson	1,825 82
John M. Fisk, for support of sun- dry persons in Middlesex County House of Correction,	93 14

<i>Amounts carried forward</i>	\$1,918 96	\$63,980 84
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<i>Amounts brought forward</i>	\$1,918 96	\$63,980 84
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Paid for SUPPORT OF SUNDRY
PERSONS OUT OF ALMS-
HOUSE:

To Danvers Lunatic Hospital, for sup- port of Jane Beckwith, Flora Bethune, Edith P. Bissell, Helen Coleman, Mary Collins, Han- nah Kershaw, Sarah Pearson, Fanny A. Sargent, Hannah Shea, Ora A. Brown, David C. Courser, James J. Dunphy, Henry M. Flanders, James A. Pierce, Edwin Price, George F. Woodward.....	2,265 48	
Taunton Lunatic Hospital, for sup- port of Sarah W. Moulton, Frank Allen, Henry B. Brooks,	126 38	
Westboro' Insane Hospital, for sup- port of Marie Bowen, Mary Collins, Eliza D. Foss	175 04	
Worcester Lunatic Hospital, for support of Lusylvia T. Bartlett, Jane B. Berry, Mary Briscoe, Mary A. Caswell, Marie Chou- inard, Margaret Drohan, Mary J. Fenderson, Bridget Fitz- patrick, Margaret Kelly, Mary E. Lacour, Angelina Landry, Emma M. Morgan, Delia McMahon, Ann Neilon, Dora A. Poor, Ada F. Sturtevant, Kate Sullivan, Katherine Ten- ney, Delina Tailley, Alice B. Yasinski, Anson H. Bruce, Peter Cassidy, Oliver A. Chart- ers, James Commerford, Thos. J. Flynn, John H. Getchett, William Hyde, William W. Horne, James D. Hodge, El- bridge G. Knowles, Patrick Kerrigan, James McCartney, James F. Quinn, Frank A.		

<i>Amounts carried forward</i>	\$4,485 86	\$63,980 84
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Amounts brought forward..... \$4,485 86 \$63,980 84

Paid for SUPPORT OF SUNDRY
PERSONS OUT OF ALMS-
HOUSE:

Robinson, Eugene C. Sullivan, Edwin Stott, John Tobin, and burial of Oliver A. Charters...	3,897 85
Home for Young Women and Children, for board of Kingsley children	156 41
Lowell Hospital Association, for support of Mary Ericson, Ida Hallowell alias Howell, Ann Maguire, Mary Nickerson, Edwin Conner, Eric Ericson, Frank Goyette, George H. Grindoud.....	287 13
Massachusetts School for Feeble Minded, for support of Kate Roberts.....	169 93
Perkins Institution and Massachu- setts School for the Blind, for support of Edward Riley.....	57 01
Sisters of Charity (Salem). for board of Charles H. and William F. Howe.....	129 00
St. Peter's Orphan Asylum, for board of Lillie and Grace Con- ners, Annie, Katy and Mary Flannagan, Josephine Griffin, Mabel Hoyt, Alice Kennedy, Etta Manning, Lizzie Moran, Nellie O'Brien, Annie and Ellen Powers. Annie and Lena Smith	830 14
St. John's Hospital, for board of Susan Adie, Mary Araga, Han- nah Armour, Margaret Brady, Mary Brady, Ida Brulette, Georgianna Burton, Catherine Burke, Mary Bulus, Mary Crowley, Mary Carroll, Mary Collins, Mary Crogan, Ann	

Amounts carried forward..... \$10,013 32 \$63,980 84

<i>Amounts brought forward</i>	\$10,013 32	\$63,980 84
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Paid for SUPPORT OF SUNDRY
PERSONS OUT OF ALMS-
HOUSE:

Campbell, Delia Casey, Winnifred Conway, Margaret Crawford, Annie Donovan, Mary C. Dunn, Augusta Dufresne, Bridget Dyer, Catherine Early, Bridget Fitzgerald, Ellen Fryer, Emma Gallagher, Maria Gillon, Hannah Haggerty, Winnifred Higgins, Maud Hughes, Catherine W. Hunter, Elizabeth Hart, Bridget Higgins, Jane Houlehan, Margaret A. Hearn, Agnes Jones, Hannah Jansen, Ellen Jones, Mary Jordan, Ann Kelleher, Emma Kenney, Amelia Keene, Mary Kane, Mary Kennedy, Caroline Kelly, Hilma Lingdern, Mary Leary, Mary Leonard, Jane Lemay, Mary Laughern, Agnes Lynch, Mary Larkin, Amanda LeBlanc, Ellen Logan, Abagile Lemay, Bridget Lucas, Elizabeth Monty, Elizabeth McDonald, Rosanna McCann, Susan McLaughlin, Elizabeth Mooney, Alice McKenzie, Annie Moore, Susanna Mulroy, Agnes McDonald, Ellen McOsker, Bridget Murphy, Ann McGovern, Mary A. McCrann, Margaret Marshall, Augusta McGovern, Margaret Manning, Catherine McCarthy, Delia McLaughlin, Rose Masterson, Jane McGlughan, Catherine Nevins, Nora O'Donnell, Margaret O'Malley, Viola Perkins, Ella Parker, Nora Queenan, Winnifred Quinn, Ellen Reilly, Bridget Ryan, Mary

<i>Amounts carried forward..... ..</i>	\$10,013 32	\$63,980 84
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Amounts brought forward..... \$10,013 32 \$63,980 84

Paid for SUPPORT OF SUNDRY
PERSONS OUT OF ALMS-
HOUSE :

Rogers, Sarah Rigney, Ellen
Rinn, Margaret Reckie, Mary
Scully, Mary Slavin, Elizabeth
Smith, Florence Silva, Hannah
Sullivan, Julia Shannahan,
Catherine Shaughnessy, Annie
Staples, Margaret Stearett,
Ellen Stanton, Bridget Shanley,
Bertha A. Thatcher, Emma
Thatcher, Georgianna Verton,
Ellen Whalen, Catherine Wat-
terson, Catherine Walsh, Annie
Wells, Carl Anderson, Jansen
Ambroy, Ellwood Abell,
Joseph Archambault, Arthur
Bell, Alfred Bell, Joseph
Bouchard, Joseph Bourke,
William Barr, Orrin L. Bonzey,
Peter Brierly, Gustave Bryant,
Theophile Belville, Fred H.
Blanchard, Daniel Buckley,
Antoine Cantara, Michael Con-
way, Thomas Calnan, Robert
Carr, Arthur Curran, Frank
Cononr, James Cullen, Wm.
Cavanaugh, Daniel Conway,
Wm. Connell, George Carter,
Charles Donnelly, Joseph Des-
rochers, James Drumm, Har-
low Dustin, Francis Daley,
Wm. Dowd, James Dolan,
James E. Doyle, Wm. W.
Davis, Wm. Dempsey, Robert
J. Drinkerd, Francis Frappier,
John Fouchier, John Finen,
James Ferguson, Peter Fearn,
Wm. Fairweather, Lyman
S Field, Frank Fountain, John
Franka, Thomas Foye, James

Amounts carried forward \$10,013 32 \$63,980 84

Amounts brought forward \$10,013 32 \$63,980 84

Paid for SUPPORT OF SUNDRY
PERSONS OUT OF ALMS-
HOUSE :

Freeman, John F. Gaffney,
Patrick Gallagher, James
Golden, John Gill, George Gag-
ner, Patrick Graney, James
Gibbons, Lawrence Gallagher,
Treffey Gervais, John Holt,
John Hannagan, Henry Holt,
Alfred Hansen, Allen Hobbs,
David Hall, Joseph Heke,
Michael Hoar, Frank James,
Henry Johnson, Thomas Kelly,
John Kelly, Peter Kelly,
Patrick Kelly, John Kittredge,
Martin Kelly, John Kittell,
John Kilroy, Thomas Loom,
Thomas Lavery, Thomas Lynch,
James Lloyd, Carl C. Linguist,
Felix Lafont, Daniel McCuddy,
Samuel Mack, Edward Mc-
Sorley, Daniel W. Murphy,
Patrick McQuirk, M. Murphy,
Joseph Morris, Duncan Mc-
Nabb, James McGee, William
Myers, Lee McCollom, Eugene
Moriarty, Alfred Mechard,
Dominick McMauniman, John
F. Maguire, Thomas Mullaly,
James Murphy, John Mead,
Cornelius McNulty, Daniel
McPhee, Dennis O'Leary,
Michael O'Heir, Louis O'Cleur,
Noah O'Donnell, Frank O'Brien,
Patrick Owens, Frank Pettee,
James Patrick, James Quinn,
Charles J. Rowe, John Regan,
Frank Reardon, Michael Reid,
Martin Rock, Andrew Robin-
son, Timothy Sheehan, Edward
Sheehan, M. F. Sullivan,

Amounts carried forward \$10,013 32 \$63,980 84

Amounts brought forward \$10,013 32 \$63,980 84

Paid for SUPPORT OF SUNDRY
PERSONS OUT OF ALMS-
HOUSE :

Michael Sullivan, August Silva, Frank Silva, S. J. Searett or Lawton, Patrick Sloane, Manuel Souza, Bernard Sweeney, Frank Tracy, John H. Thatcher.....	4,751 07	
	<hr/>	14,764 39

Paid CITIES AND TOWNS :

To City of Boston, for aid rendered Anna Bowles, Sarah Harrington, Julia A. Robinson, Ann S. Roberts, Joanna Stevens, Emma Smith, Lizzie A. Thompson, Andrew J. Burbank, Chas. H. Burgess, Fred M. Billings, Charles A. Hope, John Haynes, Henry Heyward, Fred M. Lovejoy, Robert Maloney, Roach child, Albert Shanley, John C. Wilbur.....	336 03	
City of Cambridge, for aid rendered Mary Farley and children, Michael Sheridan, and burial of Ellen A. Stafford.....	27 68	
City of Chelsea, for aid rendered David Banks.....	7 00	
City of Chicopee, for aid rendered Ann Lynch.....	2 56	
City of Fall River, for aid rendered Patrick Desmond, Patrick Mullen, Joseph Waters, and burial of Joseph H. A., and Albertine Trepennier.....	41 84	
City of Fitchburg, for aid rendered Mrs. Walter Ducharme and Mrs. James Robinson.....	44 00	
<i>Amounts carried forward</i>	<hr/> \$459 11	<hr/> \$78,745 23

Amounts brought forward \$459 11 \$78,745 23

Paid CITIES AND TOWNS:

To City of Haverhill, for aid rendered family of Mary Beauchant, Mrs. Jeremiah Collins and Frank Gariepy.....	23 30
City of Holyoke, for aid rendered Mrs. Frank LaRose.....	73 10
City of Lawrence, for aid rendered Mrs. C. Coleman, Ann Dwyke, Ann Kennelly, Sarah McCue, John Cassidy, Patrick Manning	90 05
City of Lynn, for aid rendered Mrs. Frank F. Dresser and children and John McCormack and family	30 10
City of Malden, for aid rendered Catherine Hughes.....	87 85
City of Newburyport, for aid rendered Eliza Hogan and Mrs. J. J. Morrison.....	67 75
City of Salem, for aid rendered David Rogers and B. Trainor..	77 05
City of Somerville, for aid rendered Timothy Donovan and Michael Sheridan and burial of Charles P. Lippincott.....	28 00
City of Taunton, for aid rendered Jeremiah McCarty.....	1 85
City of Worcester, for aid rendered Thomas and Ellen Kiernan, James and Margaret Ready, Richard Schoeller and burial of Thomas P. Cavanaugh.....	42 49
Town of Attleboro, for aid rendered Cornelius Quinn.....	46 25
Town of Beverly, for aid rendered David Rogers.....	242 89
Town of Chelmsford, for aid rendered Martha Hall.....	84 01
Town of Groveland, for aid rendered Richard H. Unsworth.....	49 50
Town of Hudson, for aid rendered Mrs. J. T. Bushy.....	158 75

Amounts carried forward \$1,562 05 \$78,745 23

Amounts brought forward..... \$1,562 05 \$78,745 23

Paid CITIES AND TOWNS :

To Town of Methuen, for aid rendered		
Mrs. Alonzo W. Doe.....	58	50
Town of Medford, for aid rendered		
Mrs. Ellen Christie.....	95	
Town of North Andover, for aid		
rendered Mary Adams.....	36	16
Town of Spencer, for aid rendered		
and burial of John Roy or King.	148	90
Town of Westford, for aid rendered		
R. Dugdale and aid rendered		
and burial of Mary Green....	30	25
	<hr/>	<hr/>
		1,836 81

Paid for AID RENDERED SUN-
DRY PERSONS OUT OF
ALMSHOUSE:

To H. G. T. Aldrich, for board of Jane		
Wright.....	78	41
Thomas Bradley, cash.....	30	00
I. M. Brosnahan, for care of Bridget		
Higgins	30	00
James Brown, for board of Brown		
children	72	00
M. R. Chase, for care of Dickey		
children	7	00
Julia Cole, for board of Ellen Holmes	48	00
Martha Cudworth, for care of Free-		
man child.....	6	00
James Devine, cash.....	94	00
Mrs. S. M. Dickey, cash.....	102	00
Margaret Dunnigan cash.....	36	00
Daniel Fogarty, for board of John		
W. McDonald.....	4	85
Elizabeth P. Forsaith, cash.....	24	00
Lucretia Freeman, cash.....	72	00
Wm. Goodale, cash.....	72	00
Alma Gregg, for board of Jones		
children	50	00
Patrick Hand, for board of Kehoe		
children	48	00
	<hr/>	<hr/>
<i>Amounts carried forward</i>	\$774 26	\$80,582 04

Amounts brought forward..... \$774 26 \$80,582 04

Paid for AID RENDERED SUN-
 DRY PERSONS OUT OF
 ALMSHOUSE:

To Sarah L. Harvey, cash.....	72 00	
Anthony McDonald, cash.....	52 31	
Mary McLaughlin, for board of Terance O'Brien.....	60 00	
Jane McQuade, cash....	72 00	
Mrs. Elijah Mixer, cash	104 59	
Lilla Molloy, cash.....	30 00	
Noah Parent, cash.....	54 63	
Sarah T. Richardson, cash.....	60 00	
Henry Runels, rent for Mary A. Fogg.....	42 00	
Oliver W. Sanborn, cash.....	24 00	
Francis Saunders, cash allowed Chris- topher LeBarrow.....	72 00	
Elizabeth Shaw, cash.....	8 86	
Agnes Smith cash.....	96 00	
Mary Tenary, for board of Annie Tenary.....	78 41	
Mary J. Upton, for board of Moran and Foster children	190 31	
Johannah Walsh, for board of Wm. Gannon....	28 00	
Minerva White, cash	60 00	
Ella Witherell, cash	60 00	
Mrs. Frank Wood, cash.....	150 00	
		2,089 37

Paid SOLDIERS' RELIEF:

To Angelina Cook, cash.....	66 00	
Michael H. Farrell, cash.....	40 00	
William A. Fifield, cash.....	180 00	
B. F. Foster, cash....	64 00	
Joseph M. Fowler, cash.....	120 00	
John C. Furlong, cash.....	10 00	
Eliza Jordan, cash.....	120 00	
Mrs. John Kittredge, on account of children of B. F. Foster.....	112 28	
Mrs. Albert C. Lang, cash.....	180 00	
<i>Amounts carried forward</i>	\$892 28	\$82,671 41

<i>Amounts brought forward</i>	\$892 28	\$82,671 41
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Paid SOLDIERS' RELIEF:

To Elwyn W. Lovejoy, cash allowed		
William F. Harris.....	24 00	
John Mead, cash.....	15 00	
Rebecca Mullen, cash.....	100 00	
Isabella O'Brien, cash.....	20 00	
John A. O'Brien, cash.....	60 00	
Samuel W. Preston, cash.....	120 00	
Ann Powers, cash.....	10 00	
Mrs. John L. Powers.....	110 00	
Mrs. Ira Stickney, cash.....	120 00	
	<hr/>	1,471 28

Paid for PROVISIONS, FUEL,
ETC., ON ORDERS:

To Allen Bros., for provisions.....	14 00	
John H. Burke & Co., for groceries,	25 00	
Buttrick & Co., for groceries.....	13 00	
M. Corbett, for provisions.....	38 00	
Cheever & Russell, for groceries.....	2 00	
S. W. Churchill, for groceries.....	55 00	
E. F. Dean, for provisions.....	2 00	
D. J. Donovan, for provisions	20 00	
Ed. Doolin, for groceries.....	3 00	
Farley's Cash Grocery, for groceries	18 00	
J. J. Gilbride, for groceries.....	5 00	
Greenwood Bros., for groceries....	4 00	
James Gregory & Son, for groceries	18 00	
J. D. Hartwell & Co., for groceries	12 00	
John R. Joyce, for groceries.....	1 00	
P. Keyes Jr., for groceries.....	6 00	
G. Leighton, for groceries.....	2 00	
James Love, for groceries	54 00	
Ed. Martin, for groceries.....	65 00	
J. J. McCarthy, for groceries.....	18 00	
McKinnon Bros., for groceries....	27 00	
F. D. Munn & Son, for groceries...	6 00	
C. H. O'Donnell, for groceries....	3 00	
O. B. Randlett, for groceries	4 00	
Thomas F. Roche, for groceries....	32 00	
M. J. Roughan & Co., for provisions	34 00	
	<hr/>	
<i>Amounts carried forward</i>	\$481 00	\$84,142 69

<i>Amounts brought forward</i>	\$481 00	\$84,142 69
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Paid for PROVISIONS, FUEL,
ETC. ON ORDERS:

To Savage Bros., for groceries.....	47 00	
C. E. Smart & Co., for groceries....	30 00	
P. P. Stiles & Co., for groceries....	20 00	
John Whitty, for groceries.....	12 00	
J. L. Chalifoux, for clothing.....	15 00	
C. A. Mitchell & Co., for shoes....	14 92	
Wm. Kittredge Co., for coal.....	10 00	
Wm. E. Livingston, for wood and coal	17 25	
Lowell Gas Light Co., for coke....	58 50	
A. C. Wheelock, for rent.....	54 00	
	<hr/>	759 67

Paid for SUNDRIES OUT OF
ALMSHOUSE:

To James F. Walsh, for services as clerk in Secretary's office.....	1,013 48	
Nellie A. Keyes, for services as clerk in Secretary's office.....	613 50	
Charles H. Richardson, for travel- ing expenses, postage, tele- grams, etc.....	74 45	
N. E. T. & Teleg. Co., for service	59 27	
B. & M. R. R., for tickets.....	21 59	
A. Y. Caswell, for tickets.....	103 56	
George O. White, for tickets.....	105 60	
Bachelor, Dumas & Co., for re- binding books.....	4 50	
Citizen Newspaper Co., for printing	1 75	
Thomas H. Lawler, for stationery,	6 20	
F. E. Rollins, for typewriting....	12 00	
The Baker Telephone Index and Tablet Co., for index and tablet	3 50	
L. W. Hawkes & Co., for carpet...	1 70	
W. H. I. Hayes, for tobacco.....	6 50	
Frank E. Shaw, for entertainment of visitors.....	1 00	
Carleton & Hovey, for truss.....	5 00	
	<hr/>	
<i>Amounts carried forward.....</i>	\$2,033 60	\$84,902 36

<i>Amounts brought forward</i>	\$2,033 60	\$84,902 36
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Paid for SUNDRIES OUT OF
ALMSHOUSE:

To Stanton & Thurston, for watering streets.....	2 25	
Sawyer Carriage Co., for repairing carriage	29 00	
Morse & Sparks, for carriage hire..	15 00	
American Express Co., for transportation.....	60	
	<hr/>	2,080 45
Total expenditure for the year 1892....		\$86,982 81
Balance undrawn Dec. 31, 1892.....		2,191 51
		<hr/>
		<u>\$89,174 32</u>

NEW BUILDINGS AT CITY FARM.

Received of Central Savings Bank, on loan	\$35,000 00	<hr style="border-top: 1px solid black;"/> <u>\$35,000 00</u>
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EXPENDITURES,

Paid for SUNDRIES:

To Sundry persons, for labor.....	\$1,243 45
Appropriation for Roads and Bridges, for engineering.....	14 00
Appropriation for Public Buildings, for labor and material.....	33 51
Richard Bray, for expenses of com- mittee	51 00
Merrill & Cutler, for professional services.....	175 00
Stickney and Austin, for plans, specifications, etc.....	250 00
P. F. Brady, for foundation (con- tract).....	1,527 72
C. F. Foss & Co., for brick work (contract).....	5,000 00
C. F. Foss & Co., for brick work (boiler house).....	2,643 47
Robert Goulding, for slating (con- tract).	294 30
Staples Bros., for brick and stone work (contract).	3,810 40
Wm. H. Wiggin, for carpenter work (contract).....	5,000 00
Burnham & Davis, for lumber... .	1,093 61
A. L. Brooks & Co., for lumber....	10 24
 <i>Amount carried forward</i>	<hr style="border-top: 1px solid black;"/> <u>\$21,146 70</u>

Amount brought forward \$21,146 70

Paid for SUNDRIES:

To	Howe Lumber Co., for lumber.....	838 32	
	Hibbert & Smith, for sash.....	48 00	
	Wm. Kelly & Son, for sash.....	26 00	
	Amasa Pratt & Co., for lumber....	377 23	
	O. E. Averill, for blacksmithing ..	4 50	
	Bartlett & Dow, for hardware.....	45 17	
	Doherty Bros., for castings.....	25 95	
	F. W. Cheney & Co., for nails	17 85	
	T. Costello & Co., for ventilator, solder, labor, etc.....	60 52	
	Farrell & Conaton, for pipe, fittings and labor.....	556 82	
	W. A. Mack & Co., for copper and labor	20 05	
	Seannell & Wholey, for pipe and boilers.....	510 44	
	J. W. Bennett & Co., for felt, zinc and roofing.....	275 44	
	Edward Cawley, for pipe, brick and cement.....	223 70	
	Connors Bros., for cement.....	27 40	
	Lewis D. Gumb, for chimney caps,	27 00	
	E. A. & A. T. Smith, for concrete..	174 30	
	Clarence H. Nelson, for labor.....	45 75	
	D. J. Kelly, for teaming.....	1 00	
	D. F. Lyons, for teaming.....	3 50	
	J. Mahoney, for teaming.....	1 00	
	William Roberts, for teaming.....	3 00	
			<hr/>
Total expenditure for the year 1892....		*\$24,459 64	
Balance undrawn Dec. 31, 1892.....		10,540 36	
			<hr/>
			\$35,000 00
			<hr/>

*Unfinished.

POLICE.

Appropriation	\$70,000 00	
	<hr/>	\$70,000 00

RECEIPTS.

Received into the Treasury on account
of POLICE:

From Appropriation for Schools, for services of officers.....	16 51	
Appropriation for Reserved Fund, for services of officers.....	1,332 51	
Appropriation for Health, for ser- vices of officers.....	4 13	
Appropriation for Water Works, for discount on water bills..	14 96	
County of Middlesex, for storing liquors	120 00	
Henry G. Cushing, for fines, etc	697 00	
John M. Fiske, for fines.....	205 00	
Charles Howard, for sales of cloth, helmets, caps, manure, use of telephone, etc.....	4,114 82	
James F. Savage, for fees, fines, etc	7,730 68	
Mrs. Wilson, for services of of- ficers.....	5 50	
Lowell Institution for Savings, on loan.....	1,800 00	
	<hr/>	32,241 11
		<hr/>
		\$102,241 11
		<hr/>

EXPENDITURES.

Paid CHIEF OF POLICE AND
POLICE JUSTICE:

To Charles Howard, Chief of Police, salary	\$18,00 00	
Samuel P. Hadley, Police Justice, salary	100 00	
	<hr/>	\$1,900 00

Paid DEPUTY CHIEFS OF PO-
LICE:

To George R. Davis, salary.....	\$1 400 00	
James A. McQuade, salary.....	1,400 00	
	<hr/>	2,800 00

Paid for SERVICES OF POLICE
OFFICERS, ETC.:

To Sundry persons, for services as reg- ular officers.....	\$84,206 76	
Sundry persons, for services as spe- cial officers, July 4th.....	151 09	
Sundry persons, for services as ma- tron, drivers, etc.....	3,841 90	
	<hr/>	88,199 75

Paid for FUEL:

To Appropriation for Roads and Bridges, for weighing coal....	41 86	
Appropriation for Reserved Fund, for coal.....	356 58	
Appropriation for Paupers, for wood	14 00	
Edward Cawley, for coal.....	550 84	
	<hr/>	963 38

Paid for SUNDRIES:

To Appropriation for Watering Streets, for assessment.....	\$10 40	
<i>Amounts carried forward.....</i>	<hr/>	<hr/>
	\$10 40	\$93,863 13

<i>Amounts brought forward.....</i>	\$10 40	\$93,863 13
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Paid for SUNDRIES :

To Appropriation for Fire Department, for brick, pulleys, lumber, etc..	38 21
Appropriation for Water Works, for water.....	283 15
Lowell Electric Light Corporation, for lights.....	24 08
Lowell Gas Light Co., for gas and rent of stove.....	388 44
N. E. Tel. & Teleg. Co., service....	1,739 12
N. E. Gamewell Co., for signal boxes, switch, etc.....	370 58
Electric Gas Lighting Co., for bat- teries.....	9 00
M. J. Burns, for travelling ex- penses, etc.....	51 00
David W. Craig, for opening safe..	7 50
Johannah Doyle, for labor.....	367 00
John Grant, for labor.....	413 75
Daniel M. Hayes, for travelling ex- penses, etc	4 20
Charles Howard, for postage, tele- grams, teaming, etc.....	88 97
Ellen M. McCarron, for services of William McCarron.....	85 25
F. C. Plunkett, for professional ser- vices	25 00
Howe Lumber Co, for lumber.....	65
American Bolt Co., for bolts, etc..	2 80
Bartlett & Dow, for hardware.....	23 81
Boutwell Bros., for hardware.....	1 77
Thompson Hardware Co., for pul- leys, cord, etc.....	2 35
O. E. Averill, for repairing shovel,	75
H. R. Barker Manufacturing Co., for labor and material....	16 90
Beattie Zinc Works, for zines.....	45 00
Cornelius Callahan Co., for gong..	6 00
T. Costello & Co., for pipe, fittings, fixtures, etc	16 41
Wm. H. Curtin, for tools and bench	9 75
L. A. Derby, for labor and material	1 20
Derby & Morse, for electrical appa- ratus and labor.....	7 86

<i>Amounts carried forward</i>	\$4,040 90	\$93,863 13
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Amounts brought forward \$4,040 90 \$93,863 13

Paid for SUNDRIES :

To Frank H. Derby, for speaking tubes and whistles.....	5 27	
Eastern Electric Light and Storage Battery Co., for electrical apparatus and labor....	6 67	
Himmer and Anderson Dry Battery Co., for battery cells.....	41 46	
Lowell Plating Co., for plating....	4 70	
Wm. McLarney & Co., for pipe, fittings and labor.....	59 23	
Pettingill Andrews Co., for batteries, etc....	158 73	
Pulsifer, Jordan & Co., for indicator paper.....	98 73	
Rice & Co., for window guard....	1 25	
Union Brass Foundry, for buckles	20 00	
Union Plating Manufacturing Co., for plating.....	1 10	
H. H. Wilder & Co., for flange....	30	
C. Zimmer, for repairing machine, spring, etc.,.....	23 50	
G. A. Andrews, Agt., for disinfectant.....	2 00	
R. W. Carmen, for disinfectant ...	5 00	
C. B. Coburn & Co., for oil, bags, waste, etc.....	81 87	
Eagle Harness and Leather Oil Co., for oil.....	1 60	
Frank W. Jones, for paraffine points	9 00	
A. Monier, for soap... ..	11 52	
Pulsifer Chemical Co., for ointment	2 40	
Smith & Goold, for lotion.	3 00	
Talbot Dyewood and Chemical Co., for vitriol, salamoniac, etc	70 82	
Buttrick & Co., for sugar, coffee, and crackers.....	101 54	
W. A. Coburn, for milk.....	14 76	
Daniel Gage, for ice.....	111 20	
Lowell Co-operative Milk Association, for milk.....	1 32	
F. Severance, for crackers.....	62 50	
<i>Amounts carried forward</i>	\$4,940 37	\$93,863 13

<i>Amounts brought forward</i>	\$4,910 37	\$93,863 13
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Paid for SUNDRIES:

To P. P. Stiles & Co., for sugar and coffee,	26 96
Margaret A. Sullivan, for milk	6 00
Butterfield Printing & Binding Co., for blank books,	63 50
Thomas H. Lawler, for books, stationery, etc.	103 60
Loupret's Studio, for photographs	12 00
Sampson, Murdock & Co., for directories	6 00
Taylor Bros., for blank books, paper, etc	10 63
Samuel O. Aborn, for shoulder straps, helmets, wreaths, etc...	129 90
Adams & Co., for stool	2 50
W. T. Bradley for chair	5 00
J. J. Cluin, for badges and repairing County of Middlesex, for brushes..	13 05
F. L. Goldsmith, for clubs	24 00
Lowell Rubber Co, for syringes, etc	50 00
C. H. McEvoy, for cord	3 60
Middlesex Co., for cloth	2 77
Middlesex Steam Laundry, for laundering	910 21
Offutt & Whitaker, for cord and roller	5 65
Waterbury Button Co., for buttons	40
Fred A. Fox, for hay and straw....	67 50
W, H. Wiggin, f r hay	84 20
E. N. Wood & Co., for oats, bran, Pratt's Food, etc	159 02
Charles E. Berry, for collar and hames	296 37
Cahill Bros., for shoeing horses....	26 00
J. C Donovan, for harness, repairing harness, whips, bells, etc.	78 80
H. F. Ebert, for straps, repairing, etc	207 63
Fay Bros. & Hosford, for repairing carriages	15 95
E. B. Hale, Assignee, for Concord wagon	27 00
	185 00

<i>Amounts carried forward</i>	\$7,463 61	\$93,863 13
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Amounts brought forward..... \$7,463 61 \$93,863 13

Paid for SUNDRIES:

To M. V. B. Libby, for shoeing.....	60 55	
Sawyer Carriage Co., for repairing carriage	9 50	
M. J. Sullivan, for sponges, chamois, skins, etc.....	2 65	
J. H. Swett, for sleigh, and repairing carriages.....	288 85	
Charles H. Ricker, for professional services.....	10 00	
Jesse A. Viles, for professional services.....	6 00	
C. H. Hanson & Co., for teaming...	4 00	
Boston & Maine Railroad, Western Division, for transportation...	3 10	
Boston & Maine Railroad, Southern Division, for transportation...	4 04	
	<hr/>	7,852 40
Total expenditure for the year 1892....		\$101,715 43
Balance undrawn Dec. 31, 1892.....		525 68
		<hr/>
		<u>\$102,241 11</u>

FIRE DEPARTMENT.

Balance undrawn Jan. 1, 1892.....	\$14,214 00	
Appropriation.....	80,000 00	
	80,000 00	\$94,214 00

RECEIPTS.

Received into the Treasury on account
of FIRE DEPARTMENT:

From Appropriation for Police, for cords, brackets, burners, etc.	38 21	
Appropriation for Sewers and Drains, for hose.....	6 00	
Appropriation for Water Works, for hose.....	6 00	
Appropriation for Water Works, for discounts on water bills	1,087 10	
American Fire Engine Co., for old engine and freight.....	232 00	
C. H. Hanson & Co., for old wheels.....	75 00	
C. I. Hood, for use of engine....	25 00	
E. S. Hosmer, for cloth, old material, manure, etc. . . .	669 36	
Lowell Institution for Savings, on loan.....	40,000 00	
	40,000 00	42,138 67
		\$136 352 67

EXPENDITURES.

Paid CHIEF ENGINEER AND
ASSISTANT ENGINEERS:

To Edward S. Hosmer, Chief Engineer, salary	\$1,500 00	
James F. Norton, First Assistant Engineer and Clerk, salary ...	325 00	
H. W. Burton, Assistant Engineer, salary	275 00	
Edward Meloy, Assistant Engineer, salary	275 00	
George F. Salmon, Assistant Engineer, salary	275 00	
	<hr/>	\$2,650 00

Paid for SERVICES OF FIREMEN:

To Sundry persons, for services as per- manent firemen	\$62,960 72	
Sundry persons, for services as call firemen	15,441 68	
	<hr/>	78,402 40

Paid for FUEL:

To Appropriation for Roads and Bridges, for weighing and teaming coal	47 59	
Appropriation for Paupers, for wood	42 80	
Reserved Fund, for coal	136 23	
Edward Cawley, for coal	1,983 38	
Wm. Kittredge Co., for coal	126 18	
	<hr/>	2,336 18

Paid for HAY GRAIN ETC.:

To Ame & Co., for Standard Food....	48 60	
J. B. Cover & Co., for oats, corn and shorts	57 03	
W. P. Foy, for oats, hay and straw	1,081 47	
G. M. Foster, for hay and straw	1,046 03	
	<hr/>	
<i>Amounts carried forward</i>	\$2,233 13	\$83,388 58

Amounts brought forward \$2,233 13 \$83,388 58

Paid for HAY, GRAIN, ETC. :

To H. W. Foster, for straw.....	11 89	
Samuel Horn, for straw.....	20 74	
Wm. E. Livingston, for oats, shorts, straw, etc	529 64	
Joseph Marin, for hay.....	411 44	
T. J. McDonald, for hay, straw, oats, etc.....	2,093 94	
J. B. Sabre, Agt., for hay.....	200 85	
E. S. Sherman & Co., for oats, straw, etc.....	192 05	
A. G. Stiles & Co., for hay, oats, etc.	243 42	
E. N. Wood & Co., for shorts.....	15 62	
Fred W. Jenness, for pasturing horses	18 00	
	<hr/>	5,970 72

Paid for HORSES CARRIAGES,
HARNESSES ETC. :

To American Horse Protector Co., for springs.....	45 00	
Charles E. Berry, for collars, hames, etc	156 70	
E. P. Bryant, for repairing carriages and shoeing horses.....	293 33	
T. M. Bolton, for repairing har- nesses, etc.....	40 50	
F. J. Burlingham, for whips.....	16 00	
A. L. Butman, for repairing har- nesses	49 20	
A. H. Cluer, for repairing harnesses	41 15	
J. C. Donovan, for harnesses and repairing.....	194 15	
H. F. Ebert, for harnesses and re- pairing.....	269 05	
A. S. Jackson, for chamois skin, dusters, etc.....	123 31	
A. R. Wells, for patent breeching	12 00	
	<hr/>	
<i>Amounts carried forward</i>	\$1,240 39	\$89,359 30

Amounts brought forward..... \$1,240 39 \$89,359 30

Paid for HORSES, CARRIAGES,
HARNESSES, ETC.:

To Fay Bros., for repairing carriages, etc	1,048 49	
Fay Bros. & Hosford, for repairing carriages, etc.....	891 44	
Manchester Locomotive Works, for gong, bells, steam fire engine, etc	4,083 70	
Sawyer Carriage Co., for repairing wagons, etc.	653 01	
J. H. Swett, for repairing wagons, etc.....	420 44	
C. H. Hanson & Co., for horses, exchange of horses, etc.....	1,420 65	
Peter J. Boland, for shoeing.....	34 30	
Cahill Bros, for shoeing.....	315 05	
W. H. Choate, for shoeing and re- pairing	65 55	
O. K. Dexter, for repairing wagon	1 50	
John J. Donnelly, for shoeing and repairing	100 50	
M. V. B. Libby, for shoeing.....	147 60	
D. M. McEachrin, for repairing....	50	
C. H. McGraw, for shoeing and re- pairing.....	33 20	
A. D. Mitten, for shoeing and re- pairing.....	13 45	
A. Parsons, for shoeing and repair- ing.	118 32	
T. J. Reynolds, for shoeing.....	19 85	
C. C. Thompson, for shoeing and re- pairing	34 56	
W. M. Thompson, for shoeing....	30 31	
W. H. Ward, for shoeing.....	8 50	
John Welch, for shoeing	39 08	
R. F. Britton, for clipping horses..	6 00	
Eagle Harness and Leather Oil Co., for oil.....	7 00	
	<hr/>	10,733 39
<i>Amount carried forward</i>		<hr/> \$100,092 69

Amount brought forward

\$100,092 69

Paid for EQUIPPING ENGINE
HOUSE, PAWTUCKETVILLE:

To	Rev. Michael O'Brien, for bell.....	400 00	
	Geo. E. Barclay, for placing bell in tower	87 35	
	American Fire Engine Co., for steamer	3,300 00	
	Boston Woven Hose and Rubber Co., for ladders	164 90	
	T. M. Bolton, for harnesses	125 00	
	J. H. Swett, for wagon	387 00	
	Cornelius Callahan Co., for pipe, nozzle, collar and hames	197 50	
	H. R. Barker Manufacturing Co., for hydrant chucks, pipe, fit- tings, etc	90 00	
	Derby & Morse, for electrical ap- paratus	29 38	
	Farrell & Conaton, for pipe, solder, fittings and labor	36 80	
	N. E. Gamewell Co., for indicator gongs, magnets, etc	260 40	
	Peter Davey, for furniture and bed- ding	225 34	
	L. W. Hawkes & Co., for furniture and bedding	72 55	
		<hr/>	\$5,375 92

Paid for EQUIPPING ENGINE
HOUSE, LAWRENCE ST.:

To	N. E. Gamewell Co., for bell, gongs, indicators, bell striker, etc....	\$1,001 80	
	H. R. Barker Manufacturing Co., for hydrant chuck and hanging bell	110 00	
	Charles E. Berry, for collars and hames	130 00	
		<hr/>	
	<i>Amounts carried forward</i>	\$1,241 80	\$105,468 61

Amounts brought forward..... \$1,241 80 \$105,468 61

Paid for EQUIPPING ENGINE
HOUSE, LAWRENCE ST.:

To J. C. Donovan, for harnesses... ..	166 00	
Boston Woven Hose & Rubber Co., for hose and ladders.....	682 60	
C. H. Hanson & Co., for horses and blankets	788 00	
J. H. Swett, for hook and ladder truck and hose wagon.....	873 75	
Cornelius Callahan Co., for axes, hooks, springs, hose, etc.....	1,415 00	
American Bolt Co., for bolts.....	7 00	
A. Monier, for bedding.....	150 31	
	<hr/>	5,324 46

Paid for SUNDRIES :

To Appropriation for Roads and Bridges, for labor and material	\$5 25	
Appropriation for Watering Streets, for assessments.....	23 85	
Appropriation for Water Works, for water for 875 hydrants....	10,500 00	
Appropriation for Water Works, for water	371 00	
Lowell Electric Light Corporation, for poles and power.....	79 00	
Lowell Gas Light Co., for gas.....	1,184 70	
N. E. T. & Teleg. Co., for rent of instruments	612 50	
N. E. T. & Teleg. Co., for service..	17 45	
N. E. T. & Teleg. Co., for cross arms, braces, etc.....	24 14	
A. L. Brooks & Co., for lumber....	14 19	
Burnham & Davis, for lumber.....	49 59	
Mark Holmes Jr. & Son, for lumber	3 75	
Howe Bros. & Co., for lumber....	95	
Amasa Pratt & Co., for door and lumber	90 49	
Charles E. Adams, for hardware...	17 21	
	<hr/>	
<i>Amounts carried forward</i>	\$12,994 07	\$110,793 07

Amounts brought forward \$12,994 07 \$110,793 07

Paid for SUNDRIES:

To Bartlett & Dow, for hardware....	78 86
J. C. Bennett, for broom.....	75
Boutwell Bros, for iron and steel	13 82
Cole & Nichols, for castings.....	3 18
A. F. Nichols, for castings.....	41 61
Pevey Bros., for castings.....	311 25
Rollins & Son, for hardware.....	8 50
H. B. Shattuck, for hardware.....	4 00
H. B. Shattuck & Son, for hardware	4 05
Thompson Hardware Co., for hardware.....	168 10
American Fire Engine Co., for repairing engine.....	27 00
O. E. Averill, for blacksmithing...	44 22
H. R. Barker Manufacturing Co., for pipe, nozzles, fittings, labor, etc	529 91
Bradbury Stone Storage Battery Co., for lamps, batteries and labor..	44 16
Cornelius Callahan Co., for hose, gongs, strikers, protectors, etc	2,013 00
W. W. Carey, for pulley.....	1 00
T. Costello & Co., for basin, clamps, labor, etc.....	6 55
Frank H. Derby, for repairing electrical apparatus.....	7 20
L. A. Derby, for repairing electrical apparatus, etc.....	31 58
Derby & Morse, for salamoniac, hooks, zines, battery cells, etc..	127 44
Electrical Safety Co., for protectors	20 00
Charles E. Gee, for castings and labor.....	1 25
John Graham, for bell.....	18 00
C. F. Hemmenway, for tools	5 00
S. H. Jones, for pipe, fittings, labor, etc	174 27
Joel Knapp & Son, for labor and material.....	8 32
A. Lake, for acid pumps	28 50
A. I. Laughton, for iron, lead, pipe, etc	23 45
D. Lovejoy & Son, for blacksmithing	2 68

Amounts carried forward..... \$16,741 72 \$110,793 07

Amounts brought forward..... \$16,741 72 \$110,793 07

Paid for SUNDRIES:

To Lowell Plating Co., for plating....	38 15
Lowell Steam Boiler Works, for boiler and labor.....	472 00
W. A. Mack & Co., for pipe, fittings, labor, etc.....	112 86
N. E. Gamewell Co., for signal boxes, wire, labor, etc.....	1,089 63
Rice & Co., for wire cloth.....	5 27
John Ryan & Co., for composition..	30
D. C. & J. Sabourin, for vise.....	3 00
Scannell & Wholey, grates, gaskets, labor, etc.	41 29
J. E. Shaw, for vise, work bench, etc.....	4 00
J. W. Stewart, for faucet, labor, etc	1 85
Union Plating Co., for plating.....	25 56
Union Brass Foundry, for castings	29 34
H. H. Wilder & Co., for ash hod...	3 00
C Zimmer, for fitting keys and repairing locks	5 70
Boston Woven Hose and Rubber Co., for covers, repairing ladders, etc.....	396 75
W. T. Bradley, for bureau	4 00
C. G. Braxmar, for insignia.....	73 00
A. & E. Burton & Co., for brushes	18 00
J. J. Cluin, for clock.....	5 00
John Cross, for canvas bag, etc ...	12 75
Charles F. Dow, for globe, mops, water cooler, etc.....	63 90
Durant & Rogers, for badges, buttons, etc.....	129 40
M. F. Gookin, for furniture.....	47 90
Goodyear Gossamer Co., for carpet	60
W. C. Hallock, for steel combs....	11 50
E. Hapgood & Son, for mattresses	76 59
L. W. Hawkes & Co., for furniture and bedding	600 39
Alvin Lawrence, for repairing clock	7 75
Lowell Rubber Co., for gloves.....	14 00

Amounts carried forward \$20,035 20 \$110,793 07

Amounts brought forward..... \$20,035 20 \$110,793 07

10 Middlesex Co., for cloth.....	504 14
Middlesex Steam Laundry, for laundering.....	151 71
A. Monier, for soap, cloth, towels, comforters, etc.....	219 35
Edward F. Page & Co., for brooms	48 75
J. F. Puffer & Son, for rugs and cuspidors	13 00
A. L. Ready & Son, for canvas....	2 06
The Baker Telephone Index & Tab- let Co., for index ..	3 75
R. W. Carman, for disinfectant....	8 75
Charles E. Carter, for arnica, car- bolic acid, etc.....	14 00
C. B. Coburn & Co., for oil, glue, twine, etc.....	803 95
Albert Crowell, for medicine.....	17 30
W. A. Dickinson, for soap.....	25 00
Joseph Dixon Crucible Co., for axle grease	7 20
Early, Taff & Co., for oil and paint	26 93
A. Foster, for polish.....	3 00
Josiah Gates & Sons, for hose, leather and labor.....	61 14
S. F. Hayward & Co., for bottles, and extinguishers.....	262 00
P. M. Jefferson & Co., for soap....	5 00
Austin Keith, for medicine.....	2 50
John G. Lesure, for medicine.....	28 50
George P. Palmer, for polishing oil	3 75
Pulsifer Chemical Co., for medicine	22 00
Simpson & Rowland, for matches..	10 50
Talbot Dyewood and Chemical Co., for vitriol, soda, etc.....	244 67
S. E. Tweed & Co., for liniment...	8 00
Darius Whithed, for soap.....	86 73
A. V. Partridge, for refreshments..	11 00
E. S. Hosmer, for expenses of Com- mittee, travelling expenses, en- tertainment of visitors, etc....	416 41
James F. Norton, for services as Chief Engineer.....	55 35

Amounts carried forward..... \$23,101 54 \$110,793 07

Amounts brought forward..... \$23,101 54 \$110,793 07

Paid for SUNDRIES:

To Thomas H. Lawler, for card board..	20	
J. Merrill & Son, for stationery...	6 95	
Vox Populi Press, for envelopes ..	2 75	
W. A. Sherman, for professional services.....	67 00	
Jesse A. Viles, for professional services	132 00	
Robert Wood, for professional services	6 00	
Fred W. Jenness, for pasturing horses	68 00	
C. H. Hanson & Co., for teaming and use of horses.....	47 00	
P. H. Heelon, for carriage hire....	4 00	
John McCaffrey, for carriage hire..	77 00	
Morse & Sparks, for carriage hire..	13 50	
C. M. Young, for carriage hire....	6 00	
American Express Co, for transportation	17 20	
Boston & Lowell Express Co., for transportation	55	
Lovejoy-Paul Express Co, for transportation	2 65	
New York & Boston Despatch Express Co., for transportation..	55	
Northern Express Co., for transportation	90	
Boston & Maine Railroad, for transportation.....	2 13	
Boston & Maine Railroad, Southern Division, for transportation...	53 62	
Boston & Maine Railroad, Western Division, for transportation...	51	
	<hr/>	23,610 05
Total expenditure for the year 1892		\$134,403 12
Balance undrawn Dec. 31, 1892.....		1,949 55
		<hr/>
		<u>\$136,352 67</u>

SEWERS AND DRAINS.

Balance undrawn, Jan. 1, 1892.....	\$949 71	
Appropriation	15,000 00	
	<hr/>	\$15,949 71

RECEIPTS.

Received into the Treasury on account
of SEWERS AND DRAINS :

From Appropriation for Commons, for frame.....	\$8 00	
Appropriation for Water Works, for discount on bill.....	1 20	
H. P. Beals, for old material....	3 00	
R. E. Crowley for sewer grate...	1 00	
Wm. H. Harrigan, for overdraft	7 00	
E. H. Morse, for buildings on Stevens Street.....	1,255 00	
Thomas Nesmith, for brick, iron, sand and labor.....	24 27	
Central Savings Bank, on loan..	50,000 00	
	<hr/>	\$51,299 47

Received for REMOTE DRAINAGE:

From Nazare Contois, Aiken Avenue	20 00	
Baptist Union Church, Blossom Street.....	22 50	
Percy Parker, Bridge Street....	48 67	
Luther Richards, Concord Street	12 12	
Henry Johnson, Fourth Street	13 38	
Mrs. A. E. Blanchard, Gorham Street.....	50 22	
	<hr/>	
<i>Amounts carried forward.....</i>	\$166 89	\$67,249 18

Amounts brought forward..... \$166 89 \$67 249 18

Received for REMOTE DRAINAGE:

From Mary Noonan, Gorham Street...	11 00
George M. Dole, Grand Street...	20 50
Mrs. Isaac Kimball, Hale Street	44 80
Paul Vigeant, Hanover Street...	8 40
Henry Hand, Hutchinson Street	23 67
George W. Pasho, Hutchinson Street.....	13 23
Est. Amos B. French, Jackson Street.....	24 60
J. M. Richardson, Jewett Street	58 91
John Burke, Lakeview Avenue	17 63
Napoleon Desmarais, Lakeview Avenue	12 80
American Bolt Co., Lawrence Street.....	50 75
Margaret Ferris, Lincoln Street	22 50
Annie P. Sargent, Marginal Street	12 00
George A. Chase, Middlesex Street	21 50
E. R. Hutchins, Middlesex Street	9 64
George W. Chase, New Street...	16 10
Jeanette Lee, New Street.....	19 23
Mrs. C. A. Wheeler, New Nichols Street	28 11
Frank E. Lewis, Oakland Street	20 96
Andrew C. Stevens, Robbins Street	38 75
E. A. Bigelow, Royal Street.....	5 00
Ellen Berry, School Street.....	21 53
John Pilling, Shaffer Street....	28 00
John Pilling, Shaffer Street....	15 40
Frank W. Thomas, Shaffer Street	14 00
Frank W. Thomas, Shaffer Street	14 00
F. Eugene Dexter, South Walker Street.....	29 97
Mrs. D. E. Reed, South Walker Street.....	29 97
George W. Whitney, South Walker Street	31 10
R. D. Wood, South Walker Street	14 00
Byron Severance, Stevens Street	42 50
Mary Cross, Summer Street.....	17 60
Mrs. George Molloy, Summer Street.....	46 49

Amounts carried forward..... \$951 53 \$67,249 18

<i>Amounts brought forward</i>	\$951 53	\$67,249 18
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Received for REMOTE DRAINAGE:

From Edwin Demack, Third Avenue...	158 72	
Alonzo H. Vining, Third Avenue	26 53	
A. Farington, Tyler Street.....	16 27	
C. W. Wilder and O. K. Dexter, Tucker Street.....	62 07	
Julian Treffe, Ward Street.....	15 83	
A. A. Coburn, Wilder Street....	50 00	
Daniel Gage, Wilder Street.....	38 29	
Sarah McKeon, Willow Street...	7 00	
	<hr/>	1,326 24

Received for SEWER ASSESS-
MENTS:

AUBURN STREET.

From Thomas Egan	\$19 93
Michael Hunt.....	17 94
George E. Mitchell.....	28 87
James McDermott.....	20 72
Horace E. Moore	7 47
Heirs of Henry M. Rice.....	20 23
Heirs of Jonathan and Henry M. Rice.....	7 99
Heirs of Jonathan and Henry M. Rice	8 84
Mrs. Jonathan Rice.....	11 04
Mrs. Jonathan Rice.....	12 35

BROADWAY.

Daniel Lovejoy.....	117 83
A. F. Nichols	22 31
A. F. Nichols.....	22 31
Wm. H. Staples	55 78

COMMON STREET.

Appropriation for School Houses	33 72
Appropriation for Commons.....	317 96

<i>Amounts carried forward</i>	\$725 29	\$68,575 42
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Amounts brought forward..... \$725 29 \$68,575 42

Received for SEWER ASSESS-
MENTS:

COMMON STREET..

From Ann Bambrick.....	10 33
Thomas F. Fay.....	18 46
Thomas F. Fay.....	9 06
Thomas F. Fay.....	16 11
Thomas F. Fay.....	8 25
Thomas F. Fay.....	16 79
Thomas F. Fay.....	16 79
Thomas F. Fay.....	17 79
Thomas F. Fay.....	33 21
Mary Hennessy.....	21 82
Patrick Madden.....	16 79
Kate McCarthy.....	16 79
Katherine J. Murray.....	16 79
Margaret Smith and Margaret Miles.....	15 11
Mary Welch.....	16 79

CUMBERLAND ROAD.

John Doherty.....	25 25
Hugh Rogers.....	30 43
Thomas Shaw.....	36 41
Wm. Woods.....	25 25

FOSTER STREET.

James W. Bennett.....	21 90
Francis S. Berry.....	28 79
Francis S. Berry.....	10 77
Edmund Brickett.....	11 49
Charles M. Clement.....	12 57
Louisa M. Crosby.....	11 03
Louisa M. Crosby.....	11 28
Albert A. Dearth.....	11 46
Edwin L. Giles.....	23 11
Mabel A. Goodale.....	11 32
Ethan A. Smith.....	11 54
Ethan A. Smith.....	11 81

Amounts carried forward \$1,270 58 \$68,575 42

Amounts brought forward \$1,270 58 \$68,575 42

Received for SEWER ASSESS-
MENTS:

GATES STREET.

From Oliver A. Barnes.....	44 98
Archibald B. Blair.....	153 80
Cecilia Baker.....	42 79
Children of Josiah Gates.....	135 01
Children of Josiah Gates.....	133 51
Children of Josiah Gates.....	63 15
Mary J. Mitchell	41 64
Frank W. Smith.....	71 25
Augusta P. White.....	51 91
Martha Wilson.....	40 85
Fred Woodies.	42 42

GREEN STREET.

Andrew C. Wheelock.....	34 01
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HUTCHINSON STREET.

Daniel Gage.....	60 00
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JUNE STREET.

Leroy C. Hall.....	13 92
John J. Harvey.....	8 15
Mead, Mason & Co.....	3 16
Mead, Mason & Co.....	10 10

LAKEVIEW AVENUE.

Solomon Bachman	24 25
Solomon Bachman	15 77
Solomon Bachman	286 79
John Burke.....	26 15
Rose Courtney.....	41 91
August Fels.....	23 19
August Fels.....	35 40

<i>Amounts carried forward</i>	\$2,674 69	\$68,575 42
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Amounts brought forward..... \$2,674 69 \$68,575 42

Received for SEWER ASSESS-
MENTS:

LAKEVIEW AVENUE.

From August Fels.....	56 72
August Fels	54 85
August Fels	55 45
August Fels.....	50 86
Est. Jere. Geary.....	9 05
Heirs F. A. Hildreth	17 69
Heirs F. A. Hildreth	17 73
Heirs F. A. Hildreth.....	17 77
Heirs F. A. Hildreth	17 81
Heirs F. A. Hildreth	3 92
Heirs F. A. Hildreth	96 35
Heirs F. A. Hildreth	55 23
Heirs F. A. Hildreth	60 25
Proprietors of Locks and Canals	86 88
Proprietors of Locks and Canals	70 31
Mrs. Henry Reed.....	105 76
Mrs. Henry Reed.....	55 82
Mrs. Henry Reed.....	89 32
Est. David G. Skillings.....	34 60

LAWRENCE COURT.

Wm. Barber.....	9 84
Dominick J. Duffy.....	27 75
Rhoda Goodale.....	16 50
Adam Groves.....	16 85
Est. Benjamin Watson.....	12 18
Mary A. Watson.....	12 18

LAWRENCE STREET.

Edward Dugale.....	96 37
Luther W. Faulkner.....	95 63
Dennis T. Finnegan.....	18 82
Greenwood Bros	32 34
Greenwood Bros	114 03
Greenwood Bros	39 75
Greenwood Bros.....	141 73

Amounts carried forward..... \$4,265 03 \$68,575 42

Amounts brought forward..... \$4,265 03 \$68,575 42

Received for SEWER ASSESS-
MENTS:

LAWRENCE STREET.

From Greenwood Bros	56 25
Greenwood Bros	46 12
Greenwood Bros	51 37
Greenwood Bros	60 56
Thomas Hardisty	47 10
Wm. Hyde.....	18 56
Joseph and Edward Jennings....	28 50
Wamesit Power Co.....	732 75

LINCOLN STREET.

John B. Berry.....	36 32
Charles H. Creswell.....	36 32
Frank Fay.....	26 65
James Grady.....	11 35
George Hardman.....	18 16
Alice Hughes	13 41
Rose McCaffery	11 35
James P. Robinson.....	9 08
David True....	22 70
David True.....	18 16
Charles F. Urann.....	11 35
Patrick Ward.....	9 08

LINDEN STREET.

Michael Hunt.....	31 65
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MAY STREET.

Jesse N. Bassett.....	34 68
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MANCHESTER STREET.

Catherine Early.....	14 60
Richard Gumb.....	16 42
Richard Gumb.....	11 61
Elbridge G. Parker.....	28 26
Samuel Randall.....	21 90

<i>Amounts carried forward</i>	\$5,689 29	\$68,575 42
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Amounts brought forward..... \$5,639 29 \$68,575 42

Received for SEWER ASSESS-
MENTS:

MEAD STREET.

From Thomas Flynn.....	13 05
John O'Connell.....	21 01
John O'Connell.....	21 01

MOORE STREET.

Miles F. Brennan	135 90
Michael Broderick.....	21 73
Samuel D. Butterworth.....	31 55
Est. Daniel Carter.....	57 72
B. Frank Crosby	36 93
Elizabeth A. Dugdale.....	161 84
Lewis D. Gumb.....	16 59
Charles A. Holden.....	45 06
Edward W. Kelly.....	59 47
John P. Mahoney.....	161 84
Bertha Meadowcroft.....	161 84
Harriet E. Moore.....	81 56
Oblate Fathers.....	31 32
John A. Ryan.....	23 37
Charles E. Smith.....	42 07
Swedish Berean Methodist Church	38 60
Mary T. Thorning.....	23 95

MOUNT WASHINGTON STREET.

D. B. Kelly.....	18 39
Heirs Daniel Mitchell....	1 73
George B. Sylvester.....	18 51

MAMMOTH ROAD.

Hannah Betty	58 08
Hannah Betty	95 99
James S. Brooks.....	52 68
Ira M. Chase.....	212 46
Ira M. Chase.....	157 42

Amounts carried forward..... \$7,490 96 \$68,575 42

Amounts brought forward \$7,490 96 \$68,575 42

Received for SEWER ASSESS-
MENTS:

MAMMOTH ROAD.

From Clarence G. Coburn.....	57 00
Thomas H. Connell.....	34 70
John Donohoe	49 58
Mary A V. Eaton.....	56 40
Phoebe Evans.....	41 83
James P. Fowler.....	80 61
Est. Ruth E. Hamblett.....	39 22
Benjamin C. Morrison.....	74 38
Nellie T. Sawyer.....	59 83
Patrick Teague.....	75 61
John C. Tolman.....	187 79
Est. Rufus Whitney.....	108 00

NEW A STREET.

Josephine S. Chase.....	13 00
Josephine S. Chase.....	11 42
Josephine S. Chase.....	16 65
Josephine S. Chase.....	16 41
Josephine S. Chase.....	16 19
Josephine S. Chase.....	1 15
Wm. H. Cummings.....	20 57
Ernest L. Dunn.....	10 36

NEW SOUTH WALKER STREET.

Peter Beck.....	26 81
Frank Hoyt.....	29 49
Annie A. Hsley.....	26 81
Annie A. Hsley.....	26 81
Alonzo L. Russell.....	26 81
Alonzo L. Russell.....	26 81
Catherine Shaw.....	26 81
Catherine Shaw.....	38 66
Catherine Shaw.....	30 28
Alden A. Usher.....	26 81
Est. Utley & Boynton.....	26 81

Amounts carried forward..... \$8,774 57 \$68,575 42

Amounts brought forward..... \$8,774 57 \$68,575 42

Received for SEWER ASSESS-
MENTS:

NEW SOUTH WALKER STREET.

From Est. Utley & Boynton	26 81
Est. Utley & Boynton	26 81
Est. Utley & Boynton	32 12
Est. Utley & Boynton	26 81
Est. Utley & Boynton	26 81

OAKLAND STREET.

Martha M. Baker.....	20 96
Joseph T. Berry	20 96
Clara Whidden.....	20 96
Artemas B. Woodworth.....	41 93
George W. Young.....	41 93

PHILLIPS STREET.

Joseph E. Armstrong.....	20 02
Charles M. Dickey.....	18 94
Thomas H. Elliott.....	1 40
Clifford T. Mason.....	19 53
David W. O'Brien	21 11
Henry Pratt.....	19 05
Wm. S. Prescott.....	15 92
John P. Quinn.....	25 16
Annie P. Sargent ..	19 53
James A. Speirs.....	17 98

PINE STREET.

Edwin F. Coburn ..	67 87
Foote Bros	237 68
Frank C. Goodale ..	92 70
Wm. H. Thompson.....	18 25

PORTER STREET.

Sarah H. Sanborn ..	32 81
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<i>Amounts carried forward</i>	<u>\$9,688 62</u>	<u>\$68,575 42</u>
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Amounts brought forward..... \$9,688 62 \$68,575 42

Received for SEWER ASSESS-
MENTS:

ROGERS STREET.

From George A. Chase.....	263 07
Est. Nathan Crosby.....	99 61
Walter H. McDaniel.....	58 60
Albert Pinder	263 07
E. A. Smith & F. B. Shedd, Trus- tees	116 67
E. A. Smith & F. B. Shedd, Trus- tees.....	164 02
E. A. Smith & F. B. Shedd, Trus- tees	749 64
E. A. Smith & F. B. Shedd, Trus- tees	640 95
Peter Sheehan.....	106 47

SOUTH WHIPPLE STREET.

Miles F. Brennan	71 59
James Dawson	33 47
Lowell & Suburban Street Rail- way Co	82 07
John Monson.....	39 22
Miles Veevers.....	14 72

SOUTH WALKER STREET.

Allen Buckminster	15 50
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STEVENS STREET.

Willie Gray.....	19 66
Sarah A. Hewett.....	16 38
William F. Martin.....	16 38
Samuel G. Parker and George W. Young	5 24
Sarah P. Stevens	29 36

Amounts carried forward..... \$12,494 31 \$68,575 42

Amounts brought forward..... \$12,494 31 \$68 575 42

Received for SEWER ASSESS-
MENTS:

TANNER STREET.

From American Bobbin, Spool & Shuttle Co.....	217 50
Robert G. Bartlett.....	18 75
Sylvester Bean.....	18 75
Sylvester Bean.....	18 75
Criterion Knitting Co.....	88 44
Richard Dobbins.....	191 26
Alfred Drake.....	37 50
Darius M. Edwards.....	36 68
James B. Francis.....	202 50
Edwin Lamson and E. A. Thissell.....	89 05
Edward B. Pierce.....	56 25
George Runels.....	402 75
Wm. H. Whitman.....	806 34

WARE STREET.

David H. Wilson.....	21 24
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WESTFORD STREET.

Stephen C. Davis.....	118 77
Children of Josiah Gates.....	236 40
Fred Hornè.....	29 71
Joel Knapp.....	36 40

WEST NINTH STREET.

John Bancroft.....	27 80
Charles Frappier.....	8 75
James Lynch.....	18 54
Freeman B. Shedd.....	34 67
Freeman B. Shedd.....	11 97
Freeman B. Shedd.....	11 67

<i>Amounts carried forward</i>	\$15,234 76	\$68,575 42
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Amounts brought forward \$15,234 76 \$68,575 42

Received for SEWER ASSESS-
MENTS:

WEST NINTH STREET.

From Freeman B. Shedd.....	6 12	
Est. Nathaniel Stevens.....	72 84	
	<hr/>	\$15,313 72
		<hr/>
		83,889 14
Transferred from Appropriation for Interest.....		5,132 01
		<hr/>
		<u>\$89 021 15</u>

EXPENDITURES.

Paid for Labor as per pay rolls.....	\$58,573 43	
	<hr/>	
		\$58,573 43

Paid for PIPE, BRICK, CEMENT,
LUMBER, HARDWARE, ETC.:

To A. P. Bateman, for lumber.....	84 23	
Burnham & Davis, for lumber....	812 06	
Davis & Sargent, for lumber.....	285 62	
Daniel Gage, for lumber	12 50	
Howe Bros. & Co., for lumber....	1 98	
Howe Lumber Co., for lumber....	621 11	
Mark Holmes Jr. & Son for lumber	18 40	
Amasa Pratt & Co., for lumber	39 85	
Charles E. Adams, for hardware...	45	
American Bolt Co., for wedges and labor	17 25	
Bartlett & Dow, for hardware and tools	151 15	
Boutwell Bros., for steel springs, etc.....	80 46	
Callahan & Sanborn, for hardware	23 80	
	<hr/>	
<i>Amounts carried forward</i>	\$2,139 86	\$58,573 43

Amounts brought forward..... \$2,139 86 \$58,573 43

Paid for PIPE, BRICK, CEMENT,
LUMBER, HARDWARE, ETC.:

To F. W. Cheney & Co., for hardware	34 65	
Concord Foundry Co., for castings	33 60	
John A. Coleman, for catch basins and traps	30 00	
Coleman Sewer Trap Co., for traps	90 00	
Donovan & Co., for grates, etc....	192 60	
A. F. Nichols, for castings.....	258 84	
Pevey Bros., for castings.....	129 58	
George H. Sampson, for buffers, ratchet, etc.....	38 50	
Seannell & Wholey, for iron grates and labor	257 24	
H. B. Shattuck & Son, for hardware	60	
Union Iron Foundry Co., for cast- ings	5 94	
George W. Anderson, for brick....	110 05	
Joseph Bowers, for sand.....	7 10	
Edward Cawley, for pipe, cement, coal, etc.....	10,565 23	
C. J. Cheney Jr., for pipe.....	84 59	
Connors Bros., for brick, sand, cement, etc	1,173 70	
Charles A. Kendall, for pipe.....	2 34	
William E. Livingston, for brick, lime, cement, etc.....	1,525 38	
Mullin & Winslow, for sand.....	98 00	
John A. Simpson, for filling.....	5 25	
E. A. & A. T. Smith, for repairing concrete.....	2 50	
		16,785 55

Paid for SUNDRIES :

To Appropriation for Roads and Bridges, for services of Engi- neers, Superintendent, board of horse, labor, etc.....	2,214 19
Appropriation for Roads and Bridges, for sidewalk assess- ment of Sarah A. Sanborn, Porter Street.....	32 81

Amounts carried forward..... \$2,246 99 \$75,358 98

<i>Amounts brought forward</i>	\$2,246 99	\$75,358 98
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Paid for SUNDRIES:

To Appropriation for Watering Streets, for labor.....	228 00	
Appropriation for Fire Department, for hose.....	6 00	
Appropriation for Water Works, for pipe, water, etc.....	582 92	
N. E. T. & Teleg. Co., for service	48 00	
H. R. Barker Mfg. Co., for fittings	1 45	
Buff & Berger, for repairing level- ing instruments.....	9 60	
T. Costello & Co., for pipe, fittings and labor.....	94 15	
Derby & Morse, for electrical appa- ratus	9 76	
Eastern Electric Light and Storage Battery Co., for wire, magnets and labor	19 65	
Edson Manufacturing Co., for bolts, nuts, diaphragms, etc.....	14 67	
Farrell & Conaton, for sill-cock....	1 75	
Wm. Knowles, for grinding axe	30	
A. Nourbourn, for gears	6 80	
A. L. Ready & Son, for kettles, candles, etc.....	107 92	
H. H. Wilder & Co., for repairing oil can.....	25	
Edward Cawley, for coal.....	36 30	
C. B. Coburn & Co., for oil packing, dusters etc.....	58 34	
Donovan & Co., for caps, forcite, exploders, etc	881 64	
Charles F. Dow, for rope, pails, globes.....	25 00	
Early, Taff & Co., for mason work	6 20	
Edson Manufacturing Co., for hose, couplings, strainers, etc.....	61 77	
Josiah Gates & Sons, for repairing hose.....	1 00	
A. L. Kittredge & Co., for ink and glass.....	2 07	
Wm. Kittredge Co., for coal.....	34 35	
W. H. Spalding & Co., for paper and tracing cloth.....	8 17	
<i>Amounts carried forward</i>	\$4,493 05	\$75,358 98

<i>Amounts brought forward</i>	\$4,493 05	\$75,358 98
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Paid for SUNDRIES:

To The Baker Telephone Index and Tablet Co., for index.....	3 50	
Bacheller, Dumas & Co., for blank books, paper and labor.....	19 75	
George Bowers, for car fares, post- age, etc.....	5 10	
F. W. Farnham, for car fares....	1 70	
Thomas H. Lawler, for blank book	9 50	
G. C. Prince & Son, for blank book	50	
Taylor Bros., for stationery.....	6 40	
White & Sweatt, for water.....	2 34	
Christopher Baron, for 20,414 square feet of land, taken for the extension of Marginal and Foster Streets.....	1,317 55	
John F. Bateman, for 4,784 square feet of land and buildings at the intersection of Marginal and Stevens Streets.....	4,950 00	
Francis Jewett, for 18,825 square feet of land, taken for the ex- tension of Marginal and Foster Streets.. ..	941 25	
Boulger & McOsker, for rubber boots	11 00	
Goodyear Gossamer Co., for oiled jackets	5 70	
James E. Gorman, for rubber boots	12 00	
James D. Haley, for rubber boots	2 75	
E. P. McOsker, for rubber boots..	32 35	
Horace R. Nixon, for rubber boots	21 00	
P. H. Smith, for repairing rubber boots.....	19 14	
Cyrus Barton, for opening sewer in Lawrence Street.....	14 50	
Josiah Butler, for rebate of remote drainage assessment, Foster Street	22 17	
Est. Geo. L. Clark, for rebate of remote drainage assessment, "D" Street.....	27 50	
<i>Amounts carried forward</i>	\$11,918 75	\$75,358 98

Amounts brought forward \$11,918 75 \$75,358 93

Paid for SUNDRIES :

To James Dawson, for rebate of remote drainage assessment, South Whipple Street.....	31 14	
Edwin L. Giles, for rebate of remote drainage assessment, Foster Street.....	45 30	
Leroy C. Hall, for rebate of remote drainage assessment, June St.	20 00	
Patrick F. Brady, for balance due on contract for building sewer in Merrimack Street.....	31 00	
George A. Murphy, for expense of sale of building Stevens Street	65 85	
James Gavin, for cash paid for medicine.....	5 50	
Edmond Paradis, for personal injuries.....	550 00	
St. John's Hospital, for care and medical attendance of John Manion, Edward Quinn and Victor Rault	229 71	
Wm. P. Lawler, for professional services.....	6 00	
Charles H. Ricker, for professional services.....	10 00	
Archibald Wheel Co., for wheels and axles.....	45 21	
T. M. Bolton & Co., for repairing harnesses, etc.....	20 85	
Dyer & Patterson, for rope and repairing bag.....	95	
Fay Bros. & Hosford, for repairing carriage.....	6 80	
C. H. Hanson & Co., for blanket and horse.....	181 00	
John McCaffrey, for horse, collar and carriage hire....	392 00	
H. J. O'Dowd, for rope, etc.....	1 25	
Sawyer Carriage Co., for repairing carriage	26 20	
American Express Co., for transportation	2 00	
<i>Amounts carried forward</i>	<u>\$13,589 51</u>	<u>\$75,358 98</u>

Amounts brought forward..... \$13,589 51 \$75,358 98

Paid for SUNDRIES :

To B. & M. R. R., Southern Division, for transportation.....	24 91	
Morse & Sparks, for carriage hire	3 75	
Redmond Welch, for teaming.....	44 00	
	<hr/>	13,662 17
Total Expenditure for the year 1892		<hr/> <hr/> \$89,021 15

COMMONS.

Appropriation	\$8,000 00	
	<hr/>	\$8,000 00

RECEIPTS.

Received into the Treasury on account
of COMMONS :

From Appropriation for Water Works, discount on water bill.....	\$5 38	
M. J. Dowd, for rent of lots on South Common.....	480 00	
Avery Marshall, for rent of lots on South Common and sale of lawn mower.....	14 00	
John F. Webster, for sale of hay and lawn mower.....	33 00	
	<hr/>	532 38
		<hr/>
		\$8,532 38
Transferred from Reserved Fund.....	\$2,500 00	
Transferred from Appropriation for Interest	1,077 35	
	<hr/>	3,577 35
		<hr/>
		\$12,109 73
		<hr/> <hr/>

EXPENDITURES.

Paid for SUNDRIES AT FORT
HILL PARK :

To Sundry persons, for labor.....	\$3,892 05
	<hr/>
<i>Amount carried forward.....</i>	\$3,892 05

Amount brought forward..... \$3,892 05

Paid for SUNDRIES AT FORT
HILL PARK:

To Appropriation for Water Works,	
for water.....	6 00
A. P. Bateman, for lumber.....	25 00
A. L. Brooks & Co., for shutters	6 50
Howe Lumber Co., for lumber.....	9 62
Whittet & McDonald, for lumber,	
hardware, etc.....	58 01
Bartlett & Dow, for hardware....	35 62
Callahan & Sanborn, for lawn	
mowers, etc.....	139 84
Pevey Bros., for castings.....	2 85
H. B. Shattuck & Son, for hardware	95
Thompson Hardware Co., for hard-	
ware	75
Farrell & Conaton, for labor and	
material	30 00
Joel Knapp & Son, for repairing	
lawn mowers.....	11 55
Lowell Rubber Co., for repairing	
hose	65
J. S. Mosher, for blacksmithing....	5 15
A. L. Ready, for canvas.....	4 44
W. A. Mack & Co., for castings and	
labor	13 01
Edward Cawley, for manure and	
teaming	34 50
Mrs. A. B. French, for manure....	25 00
Lowell Bonè Fertilizer Co., for fer-	
tilizer.....	16 80
E. S. Sherman & Co., for oat meal	2 40
C. B. Coburn & Co., for oil, paint,	
brushes, etc.....	13 80
Early, Taff & Co., for oil, japan,	
paint, etc.....	4 60
J. J. Cluin, for badges.....	3 00
Lewis D. Gumb, for posts.....	30 00
Thomas H. Lawler, for stationery,	30
James Everett, for plants and shrubs	139 51
John Oliver, for plants and shrubs	3 52
Patten & Co., for plants.....	7 30

Amount carried forward..... \$4,522 72

Amount brought forward..... \$4,522 72

Paid for SUNDRIES AT FORT
HILL PARK:

To Schegel & Fottler, for seed and water pots.....	38 17	
E. Sheppard & Son, for plants, etc..	101 50	
James Walsh, for seedurn	2 00	
Sarah E. Webster, for pansies and daisies	10 40	
E. Marche, for labor.....	6 75	
John F. Webster, for use of horse, etc.....	281 07	
C. H. Hanson, for teaming.....	6 00	
P. H. Heelon, for carriage hire...	5 00	
John McCaffrey, for carriage hire..	3 00	
American Express Co., for transportation	15	
	<hr/>	\$4,976 76

Paid for SUNDRIES:

To Sundry persons, for labor.....	\$4,223 44	
Appropriation for Sewers and Drains, for assessment, Common Street.....	317 96	
Appropriation for Sewers and Drains, for frame.....	8 00	
Appropriation for watering Streets, for assessments.....	166 99	
Appropriation for Water Works, for water.....	150 00	
A. B. Adams, for chestnut posts...	19 50	
Burnham & Davis, for lumber....	82 50	
Howe Lumber Co., for lumber.....	54 92	
Bartlett & Dow, for hardware and tools	46 51	
Callahan & Sanborn, for seed, tools and hardware	157 09	
A. F. Nichols, for castings	48 00	
Charles F. Haskell, for filing saws	6 47.	
S. H. Jones, for pipe, fittings, etc	37 03	
Joel Knapp & Son, for repairing lawn mower.....	3 75	
	<hr/>	
<i>Amounts carried forward</i>	\$5,322 16	\$4,976 76

<i>Amounts brought forward</i>	\$5,322 16	\$4 976 76
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Paid for SUNDRIES:

To Rice & Company, for window guards	1 91	
H. H. Wilder & Co., for tin jets	2 50	
Beard & McCoy, for repairing carriage	2 50	
I. O. Ramsdell, for blacksmithing	10 40	
Shufelt & McCoy, for repairing carriages	16 53	
J. C. Donovan, for repairing har- nesses, etc	6 35	
H. J. O'Dowd & Co., for wagon, canopy top, chamois skin, etc.	116 00	
Bennett & Conlon, for mason work	7 10	
Edward Cawley, for pipe and cement	33 80	
Connors Bros., for sods, sand, loam, cement and teaming	266 85	
Fred W. Jenness, for sod	121 00	
T. J. McDonald, for fertilizer	345 20	
E. A. & A. T. Smith, for concrete	173 71	
C. B. Coburn & Co., for waste	5 80	
W. H. Spalding & Co., for paint, brushes, etc	73 41	
Thomas H. Lawler, for book	1 25	
Joseph Hennessy, for use of horse	257 50	
Avery Marshall, for use of horse	290 00	
C. H. Hanson & Co., for teaming	70 00	
P. H. Heelon, for carriage hire	5 00	
John McCaffrey, for carriage hire	3 00	
M. A. McKeon, for teaming	1 00	
	<hr/>	7,132 97
Total Expenditure for the year 1892....		<u><u>\$12,109 73</u></u>

PRINTING AND ADVERTISING.

Appropriation.....	\$7,000 00	
	<u>7,000 00</u>	\$7,000 00

RECEIPTS.

Received into the Treasury on account
of PRINTING AND ADVERTISING:

From Campbell & Hanscom, for over-draft	\$ 3 75	
Daily News Co., for over-draft..	27 88	
Sunday Arena. for over-draft....	1 50	
	<u>33 13</u>	33 13
		<u>\$7,033 13</u>
Transferred from Reserved Fund.....	\$2,500 00	
Transferred from Appropriation for Interest	74 62	
	<u>2,574 62</u>	2,574 62
		<u>\$9,607 75</u>

EXPENDITURES.

Paid for SUNDRIES:

To Boston Bank Note and Lithographing Co., for diplomas.....	\$100 00	
Boston Daily Advertiser, for advertising.....	15 75	
	<u>115 75</u>	
<i>Amount carried forward.....</i>	<i>\$115 75</i>	

Amount brought forward..... \$115 75

Paid for SUNDRIES :

To Butterfield Printing and Binding Co., for printing.....	56 50
Campbell & Hanscom, for printing and advertising.....	1,135 72
Citizen Newspaper Co., for printing and advertising.....	746 71
S. M. Chase, for printing.....	63 75
Daily News Co., for advertising...	198 87
Daily News Job Print, for printing,	895 33
Harrington Bros., for printing.....	2,016 58
Harvard Printing Co., for printing,	15 00
F. E. Johnson, for printing.....	62 00
Benjamin Lenthier, for advertising,	104 50
L'Etoile, for advertising.....	8 90
L'National, for printing and advertising	167 25
Lowell Sun, for advertising....	151 00
Lowell Sun Job Print, for printing,	485 53
Lowell Courier Job Print, for printing and advertising.....	67 87
Marden & Rowell, for printing and advertising	228 32
Morning Mail Corporation, for printing and advertising....	425 89
Sunday Arena, for advertising....	101 25
Vox Populi Press, for printing and advertising.	1,853 00
A. Storrs & Bement Co., for paper	569 73
Lowell Opera House Bill Posting Co., for posting.....	50 50
A. V. Partridge, for posting.....	72 20
Boston & Maine Railroad, for transportation	5 10
Frank Dunlap, for teaming.....	3 50
Timothy Kelly, for teaming.....	50
Thomas Kerwin, for teaming.....	1 00
Frank Meehan, for teaming.....	1 00
John Regan, for teaming.....	4 50

Total Expenditure for the year 1892...

\$9,607 75

LIGHTING.

Appropriation	\$55,000 00	
	<u> </u>	\$55,000 00

RECEIPTS.

Received into the Treasury on account
of LIGHTING:

From Appropriation for Water Works, discount on bill.....	1 40	
Lowell Country Club, for lanterns and frames.....	27 00	
Wm. F. Mead, for ladder.....	2 00	
	<u> </u>	\$30 40
		<u> </u>
		\$55,030 40
Transferred from Reserved Fund.....	\$8,000 00	
	<u> </u>	8,000 00
		<u> </u>
		\$63,030 40
		<u> </u>

EXPENDITURES.

Paid for LIGHTING PUBLIC
BUILDINGS:

To Lowell Electric Light Corporation	\$612 21	
Lowell Gas Light Co.....	1,157 53	
	<u> </u>	\$1,769 74
		<u> </u>
<i>Amount carried forward.....</i>		\$1,769 74

Amount brought forward.....

\$1,769 74

Paid for LIGHTING STREETS:

To Sundry Persons, for labor.....	\$7,271 25
Appropriation for Roads and Bridges, for labor.....	8 85
Appropriation for Watering Streets, for assessment.....	10 52
Appropriation for Paupers, for coal	8 00
Reserved Fund, for coal.....	16 22
Appropriation for Water Works, for water	14 00
Appropriation for Public Buildings, for labor and material.....	2 33
Globe Gas Light Co., for lighting...	8,565 90
Lowell Gas Light Co., for gas.....	8,176 98
Lowell Electric Light Corp., for lights	34,802 73
Lowell Electric Light Corp., for changing lights.....	38 00
Mark Holmes, Jr. & Son, for handles.....	5 50
E. S. Hosmer, for ladder.....	2 00
Amasa Pratt & Co., for lamp posts,	22 00
Charles E. Adams, for globes.....	46 00
Bartlett & Dow, for hardware and tools.....	10 35
Thompson Hardware Co., for hard- ware.....	50
H. R. Barker Manufacturing Co., for fittings, burners, brackets, labor, etc.....	56 10
S. H. Jones, for labor.....	1 20
A. I. Laughton, for lead, copper, solder, etc.....	62 22
Pevey Bros., for lamp posts.....	160 00
J. W. Stewart, for lead, solder, labor, etc.....	68 69
J. W. Stewart & Co., for lead, solder, labor, etc.....	21 50
Albert Crowell, for syringe.....	1 20
C. B. Coburn & Co., for glass, alcohol, sal soda, etc.....	243 16
Charles F. Dow, for shades.....	11 50

Amounts carried forward.....

\$59,626 70

\$1,769 74

Amounts brought forward \$59,626 70 \$1,769 74

Paid for LIGHTING STREETS:

To Lawrence Manufacturing Co., for for remnants.....	7 50	
J. Merrill & Son, for stationery....	1 30	
Simpson & Rowland, for matches..	10 00	
Wm. E. Livingston, for hay, oats, and straw.....	121 17	
T. J. McDonald, for hay and oats..	35 91	
Dyer & Patterson, for collar, hames and traces ...	10 25	
H. F. Ebert, for repairing harness..	18 45	
Fay Bros. & Hosford, for repairing carriages.....	81 29	
M. V. B. Libbey, for shoeing horses,	3 15	
C. H. Hanson & Co., for blanket...	3 00	
A. D. Mitten, for shoeing horse and repairing lamps.....	11 13	
C. C. Thompson, for blacksmithing,	9 67	
W. M. Thompson, for blacksmithing,	6 30	
A. W. Baker, for professional ser- vices.....	2 00	
W. A. Sherman, for professional services.....	1 00	
E. A. & A. T. Smith, for repair- ing concrete	4 50	
John McCaffery, for carriage hire..	2 00	
		59,955 32
Total Expenditure for the year 1892...		\$61,725 06
Balance undrawn, Dec. 31. 1892.....		1,305 34
		<u>\$63,030 40</u>

PUBLIC BUILDINGS.

Balance undrawn Jan. 1, 1892.....	\$20,847 59	
Appropriation	10,000 00	
		\$30,847 59

RECEIPTS.

Received into the Treasury on account
of PUBLIC BUILDINGS:

From Appropriation for Roads and Bridges, for labor and ma- terial	\$ 36 03	
Reserved Fund, for labor and material	998 32	
Appropriation for City Cem- eteries, for labor and material	444 44	
Appropriation for Watering Streets, for labor and ma- terial	184 71	
Appropriation for Paupers, for coffins, labor and material .	620 35	
Appropriation for Lighting, for labor and material	2 33	
Appropriation for Library, for labor and material	37 69	
Appropriation for Health, for labor and material	15 79	
Appropriation for Water Works, for labor and material	913 48	
Appropriation for Water Works, discount on water bill	2 59	
Appropriation for New Pumping Engine, for labor and material	629 94	
<i>Amounts carried forward.....</i>	\$3,885 67	\$30,847 59

<i>Amounts brought forward.....</i>	\$3,885 67	\$30,847 59
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Received into the Treasury on account
of PUBLIC BUILDINGS:

From Appropriation for New Buildings at City Farm, for labor and material	33 51	
Berard & Jalbert, for water.....	7 50	
Thomas Haworth, Agent, for rent of land.....	5 60	
	<hr/>	\$3,932 18
		<hr/>
		\$34,779 77
Transferred from Reserved Fund.....		11,500 00
		<hr/>
		46,279 77
		<hr/>

EXPENDITURES.

Paid SUPERINTENDENT OF
PUBLIC BUILDINGS:

To Richard Bray, Superintendent, sal- ary	\$1,600 00	
	<hr/>	\$1,600 00
Paid sundry persons for labor....	\$7,116 39	
	<hr/>	7,116 39

Paid for LUMBER, HARDWARE,
ETC.:

To A. L. Brooks & Co., for lumber....	\$43 91	
Burnham & Davis, for lumber.....	769 14	
Hibbert & Smith, for doors and moulding	39 00	
Mark Holmes Jr. & Son, for lumber and labor	46 00	
Howe Bros. & Co., for lumber.....	2 18	
Howe Lumber Co., for lumber.....	679 47	
Amasa Pratt & Co., for sash, lumber, etc	394 18	
	<hr/>	
<i>Amounts carried forward.....</i>	\$1,973 88	\$8,716 39

Amounts brought forward..... \$1,973 88 \$8,716 39

Paid for LUMBER, HARDWARE,
ETC.:

To Sturtevant & Galer, for stair posts, rail etc.....	14 42	
American Bolt Co., for screws, bolts, etc.....	32 33	
Charles E. Adams, for hardware...	2 55	
Bartlett & Dow, for hardware, var- nish, etc.....	626 41	
Callahan & Sanborn, for hardware	2 20	
F. W. Cheney & Co., for hardware and tools.....	22 57	
Thompson Hardware Co., for hard- ware.....	103 79	
	<hr/>	2,778 15

Paid for SUNDRIES:

To Appropriation for Roads and Bridges, for weighing coal, labor, etc.....	2 38	
Appropriation for Watering Streets, for assessment....	3 53	
Appropriation for Water Works, for water.....	23 16	
Lowell Electric Light Corporation, for power.....	124 99	
N. E. T. & Teleg. Co., for service,	74 70	
Western Union Telegraph Co., for telegrams.....	25	
O. E. Averill, for blacksmithing ..	8 50	
H. R. Barker Manufacturing Co., for globes, chimneys, pipe, fittings, etc.....	61 76	
W. W. Carey, for pulley, hanger, lathe, etc.....	32 25	
T. Costello & Co., for pipe, fittings, fixtures, labor, etc.....	245 26	
Farrell & Conaton, for pipe, fittings, etc.....	272 66	
M. O'Flahavan, for repairing stove	8 35	
	<hr/>	
<i>Amounts carried forward</i>	\$857 79	\$11,494 54

<i>Amounts brought forward.....</i>	\$857 79	\$11,494 54
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Paid for SUNDRIES:

To S. H. Jones, for pipe, fittings, labor, etc	282 30
Joel Knapp & Son, for bolts.....	1 60
W. A. Mack & Co., for screen, ven- tilator, galvanized iron, labor, etc.....	131 60
Rice & Co., for wire cloth and win- dow guards.....	30 40
Scannell & Wholey, for grates and door frames.....	65 30
H. H. Wilder & Co., for pails.....	6 00
Beard & McCoy, for repairing car- riage.....	20 42
T. M. Bolton, for whips and repair- ing harnesses.....	28 25
E. P. Bryant, for repairing carriages	11 35
Cahill Bros., for shoeing horses....	38 10
Owen Cahill, for shoeing horse....	1 75
J. C. Donovan, for whips and repair- ing harnesses.....	13 95
Dyer & Patterson, for bridle and repairing harness.....	7 00
H. J. O'Dowd & Co., for whip, blanket, buggy, repairing car- riage, etc.....	279 50
T. J. Reynolds, for shoeing horses,	49 60
Thomas Clark, for repairing car- riages	16 90
Sawyer Carriage Co, for repairing carriages	19 20
Shufelt & McCoy, for repairing car- riage	8 98
M. J. Sullivan, for blankets.....	10 00
J. W. Bennett & Co., for composi- tion, tarred paper, window cord, etc.....	129 89
C. B. Coburn & Co., for waste, glue, glass, brushes, ammonia, etc..	244 28
Carleton & Hovey, for liniment....	1 70
Early, Taff & Co., for paint.....	9 50
F. C. Goodale & Co., for liniment..	2 75
Goodyear Gossamer Co., for mat...	2 50

<i>Amounts carried forward</i>	\$2,270 61	\$11,494 54
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Amounts brought forward..... \$2,270 61 \$11 494 54

Paid for SUNDRIES :

To L. W. Hawkes & Co., for chairs and excelsior.....	9 40
A. L. Kittredge & Co., for labor...	50
William L. Lockhardt, for coffin trimmings.....	98 73
A. Monier, for cotton cloth.....	20 53
John Ryan & Co., for rags.....	1 00
W. H. Spalding & Co., for oil, lead, glass, shellac, paint, brushes, etc.....	812 95
Whiting & Weston, for belting....	22 54
H. C. Church & Son, for insurance	30 00
Thomas C. Lee, Agt., for insurance	30 00
F. W. Sherman, for insurance.....	30 00
E. M. Tucke, for insurance.....	30 00
Daniel Cleary, for mason work and material.....	166 24
Staples Bros., for pipe, cement and labor	1 36
Edward Cawley, for coal and constructing sewer.....	269 21
Philip Ginty, for slate, zinc, and labor	53 34
E. A. & A. T. Smith, for concrete	580 77
S. H. Weaver & Son, for roofing and repairing.....	208 10
Conners Bros., for cement.....	1 25
Wm. E. Livingston, for kaolin.....	2 00
Thomas H. Lawler, for blank books, stationery, etc.....	13 35
J. L. Severance, for stamps.....	2 75
Richard Bray, for expenses of Committee, etc.....	279 10
Waverly House, for refreshments	9 90
P. H. Heelon, for board of horses and carriage hire.....	421 94
C. H. Hanson & Co., for use of horse and exchange of horses	330 00
C. H. Hanson Jr., for harness.....	28 50
A. H. McCann, for professional services.....	19 50
J. H. Sparks, for professional services.....	10 00

Amounts carried forward.... \$5,753 57 \$11,494 54

Amounts brought forward \$5,753 57 \$11,494 54

Paid for SUNDRIES :

To Jesse A. Viles, for professional services	2 00	
Lowell Opera House, for personal for Superintendent.....	25 00	
J. A. Chase, for carriage hire.....	1 00	
James A. Keyes, for carriage hire	15 00	
John McCaffrey, for carriage hire	38 00	
John F. McGovern, for carriage hire	16 00	
Morse & Sparks, for carriage hire	1 00	
Murphy & Bingham, for carriage hire	5 00	
J. H. Sparks, for carriage hire....	3 00	
B. & M. R. R., for tickets.....	60 00	
B. & M. R. R., for transportation..	25	
A. Y. Caswell, for railroad tickets..	21 30	
Charles Clapp, for exchange of horses	140 00	
American Express Co., for transportation	2 45	
Boston & Maine Railroad, Western Division, for transportation..	35	
Boston & Maine Railroad, Southern Division, for transportation..	4 19	
	<hr/>	6,088 11

**Paid on account of ENGINE HOUSE
PAWTUCKETVILLE :**

To Sundry persons, for labor.....	\$654 25	
Ford & Phillips, on account of plans and specifications.....	200 00	
George E. Barclay, for carpenter work (contract).....	2,682 90	
George E. Barclay, for labor and material.....	90 00	
Dennis H. Kelly, for brick work, (contract).....	900 00	
Dennis H. Kelly, for labor and material.....	74 17	
	<hr/>	
<i>Amounts carried forward</i>	\$4,601 32	\$17,582 65

Amounts brought forward \$4,601 32 \$17,582 65

Paid on account of ENGINE HOUSE
PAWTUCKETVILLE:

To Farrell & Conaton, for plumbing, (contract).....	512 00	
Farrell & Conaton, for pipe, fittings, labor, etc.....	260 01	
B. G. Brown, for foundation, (con- tract)	158 32	
A. L. Brooks & Co., for lumber....	2 25	
Burnham & Davis, for lumber....	31 72	
Howe Lumber Co., for lumber....	59 85	
American Bolt Co., for iron work..	478 55	
Bartlett & Dow, for hardware, etc	173 00	
H. R. Barker Manufacturing Co., for heating apparatus (contract)	683 00	
H. R. Barker Manufacturing Co., for pipe, fittings, labor, etc....	78 99	
T. Costello & Co., for tin, nails and labor	15 82	
L. A. Derby & Co., for automatic burners.....	15 00	
Joel Knapp & Son, for bolts.....	3 67	
Lowell Gas Light Co., for meter connections.....	1 00	
C. H. McGraw, for rods.....	4 44	
Connors Bros., for coal.....	27 00	
William E. Livingston, for coal and sand.....	38 05	
W. H. Spalding & Co., for oil, shel- lac, etc.....	18 90	
Lewis D. Gumb, for labor.....	7 50	
J. W. O'Hara, for mason work....	20 00	
		*7,190 39

* Paid on account of ENGINE HOUSE,
LAWRENCE STREET:

To Sundry persons, for labor.....	\$495 95	
<i>Amounts carried forward</i>	\$495 95	\$24,773 04

*To this amount add \$7,697.93 expended previous to Jan. 1, 1892, making total cost of land and building \$14,888.34.

Amounts brought forward \$495 95 \$24,773 04

Paid on account of ENGINE HOUSE
LAWRENCE STREET :

Appropriation for Roads and Bridges, for services of engineer.....	39 00	
Appropriation for Water Works, for water.....	7 50	
Fred W. Stickney, for plans and specifications.....	308 28	
American Bolt Co., for iron work (contract).....	676 00	
American Bolt Co., for iron work	56 33	
Cyrus Barton, for foundation (contract).....	2,672 61	
Berard & Jalbert, for brick work (contract).....	5,742 00	
Farrell & Conaton, for heating apparatus (contract).....	1,025 00	
P. B. Quinn, for carpenter work (contract).....	6,972 00	
Robert Goulding, for copper flushings	25 00	
Bartlett & Dow, for hardware and paint	154 90	
T. Costello & Co., for pipe, fittings, labor, etc	1,314 47	
Amasa Pratt & Co., for lumber....	14 35	
W. H. Spalding & Co., for shellac	27 50	
E. A. & T. Smith, for concrete	235 85	
Charles Runels, for labor.....	14 28	
		* \$19,781 02
Total Expenditure for the year 1892....		\$44,554 06
Balance undrawn, Dec. 31, 1892.....		1,725 71
		<u>\$46,279 77</u>

*To this amount add the sum of \$5,835 81 expended previous to Jan. 1, 1892, making total cost of land and buildings \$25,616.83.

CITY HALL AND MEMORIAL BUILDING.

Balance undrawn, Jan. 1, 1892.....	\$135,292 90	
	\$135,292 90	

RECEIPTS.

Received into the Treasury on account
of CITY HALL AND ME-
MORIAL BUILDING:

From Appropriation for Water Works, discount on water bill.....	\$4 72	
Daily News Co, for overdraft...	2 00	
N. W. Harris & Co., for bonds date Oct. 1, 1890.....	100,000 00	
Commissioners of Sinking Funds, on loan.....	65,000 00	
	165,006 72	
	\$300,299 62	

EXPENDITURES.

Paid on account of CITY HALL:

To Sundry persons for labor.....	\$499 72	
Appropriation for Roads and Bridges, for labor.....	2 00	
Appropriation for Watering Streets, for assessment.....	18 35	
Appropriation for Water Works, for water.....	23 65	
	\$543 72	
<i>Amount carried forward.....</i>	<i>\$543 72</i>	

Amount brought forward \$543 72

Paid on account of CITY HALL:

To Merrill & Cutler, for services superintending construction of building.....	2,125 50
Merrill & Cutler, for service in suit Darling Bros., vs. City.....	308 00
H. R. Barker Manufacturing Co., for heating apparatus(contract),	225 00
H. R. Barker Manufacturing Co., for pipe, fittings, etc.,.....	423 59
Boston Blower Co., for heating and ventilating apparatus.....	3,240 00
Builders Iron Foundry, for iron work (contract).....	9,774 00
Cape Ann Granite Co., for granite..	3,105 00
Farrell & Conaton, for plumbing (contract).....	1,425 00
Farrell & Conaton, for brass pipe..	40 00
C. F. Foss & Co., for mason work (contract).....	16,537 00
Graves Elevator Co., for elevator, (contract).....	2,833 33
Maine and New Hampshire Granite Co., for stone work (contract)..	23,112 00
Wm. H. Wiggin, for carpenter work (contract).....	44,949 00
Wm. H. Wiggin, for labor and material.....	477 51
L. A. Derby, for wiring offices....	125 00
Hawkins & Bacon, for services in suit, Darling Bros. vs. City....	1,000 00
P. O'Hearn, for mason work.....	150 23
S. C. Nightingale & Childs, for covering steam pipes.....	60 00
George G. McLaughlin Manufacturing Co., for tube cleaner.....	15 00
Frederick Taylor Co., for two-thirds cost fire proof safe.....	26 67
Thompson Hardware Co., for shovel and wheel-barrow.....	15 00
C. B. Coburn & Co., for oil, globe, waste, lantern, etc.....	47 77
Daniel Gage, for wood.....	16 29

Amount carried forward \$110,574 61

Amount brought forward..... \$110,574 61

Paid on account of CITY HALL:

To D. W. Horne & Son, for coal.....	778 44	
Lowell Gas Light Co., for meter connections and gas.....	93 40	
Merrimac House, for entertainment of guests.....	47 87	
Patten & Co., for floral tablet.....	20 00	
Amos Kendall, for oil, labor and material....	43 82	
		<hr/> * 111,558 14

Paid on account of MEMORIAL BUILDING:

To Sundry persons, for labor.....	\$616 31	
Appropriation for Roads and Bridges, for engineering....	22 00	
Appropriation for Watering Streets, for assessment.....	9 17	
Appropriation for Water Works, for water.....	23 64	
Fred W. Stickney, for services of superintending construction of building.....	1,216 49	
Boston Blower Co., for heating and ventilating apparatus, per contract	2,700 00	
Chelmsford Foundry Co., for iron work, (contract).....	1,117 00	
Eastern Electric Light and Storage Battery Co., for wiring for electric lights (contract)	850 00	
Farrell & Conaton, for plumbing, (contract).....	490 00	
Farrell & Conaton, for labor on conductors.....	39 06	
C. F. Foss & Co., for mason work, (contract).....	5,500 00	
C. F. Foss & Co., for mason work and material.....	571 25	
		<hr/>
<i>Amounts carried forward</i>	\$13,154 92	\$111,558 14

*To this amount add \$155,345.20 expended previous to Jan. 1, 1892 making total cost of building to Jan. 1, 1893 \$266,903.34.

Amounts brought forward..... \$13,154 92 \$111,558 14

Paid on account of MEMORIAL
BUILDING:

To Fred H. Holton & Co., for slate, (contract).....	698 68	
A. L. Kittredge, for painting, (con- tract)	2,200 00	
Luther F. Kittredge, for balance due on contract for foundation	300 00	
Luther F. Kittredge, for labor and material.....	148 32	
D. Moody Prescott, for plastering (contract)	4,484 00	
J. B. Varnum, for carpenter work (contract)	8,900 00	
J. B. Varnum, for labor and material	401 38	
A. B. & W. T. Westervelt, for book stacks (contract).....	3,389 46	
S. H. Jones, for pipe, fittings and labor	82 01	
Frederick Taylor Co., for one third cost fire proof safe	13 33	
C. B. Coburn & Co, for oil, packing, lantern.....	8 62	
Daniel Gage, for wood.....	16 29	
D. W. Horne & Son, for coal.....	907 79	
Staples Bros., for mason work....	25 00	
Merrimac House, for entertain- ment of guests.....	47 88	
Campbell & Hanscom, for adver- tising	2 00	
Citizen Newspaper Co., for adver- tising	2 00	
Daily News Co., for advertising....	2 00	
Marden & Rowell, for advertising	2 00	
Morning Mail Corp., for advertising	2 50	
		* 34,788 18
Total expenditure for the year 1892....		\$146,346 32
Balance undrawn Dec. 31, 1892.....		153,953 30
		<u>\$300,299 62</u>

*To this amount add the sum of \$104,446.39 expended previous to Jan. 1, 1892, making total cost of building to Jan. 1, 1893 \$139,234.57.

LIBRARY.

Balance undrawn Jan. 1, 1892.....	\$11,637 64	
Appropriation	12,000 00	
	<hr/>	\$23,637 64

RECEIPTS.

Received into the Treasury on account
of LIBRARY:

From County of Middlesex, on account of dog tax of 1891.....	\$3,051 57	
Fred A. Chase, for fines, fees, cat- alogues, etc	452 13	
	<hr/>	3,503 70
		<hr/>
		\$27,141 34
		<hr/> <hr/>

EXPENDITURES.

Paid LIBRARIAN AND ASSIS-
TANTS:

To Fred. A. Chase, Librarian, salary...	\$1,500 00	
Sundry persons, for labor per pay rolls	5,067 39	
	<hr/>	\$6,567 39
<i>Amount carried forward.....</i>		<hr/> <hr/>
		\$6,567 39

Amount brought forward.....

\$6,567 39

Paid for BOOKS AND PERIOD-
ICALS:

To D. Appleton & Co.....	\$49 50
Astronomical Society of the Pacific	11 00
N. W. Ayer & Son.....	5 00
Brown Thurston & Co.....	10 00
Boston Book Co.....	40 65
Fred. A. Chase.....	19 18
James W. Christopher.....	32 22
A. S. Clarke.....	17 15
W. B. Clarke & Co.	3,988 69
Louville Curtis	9 50
DeWolfe, Fiske & Co.....	17 85
Oliver Ditson Co.....	1 50
C. H. Dunton & Co.....	171 41
Estes & Lauriat.....	4 17
S. B. Fisher	39 50
Paul L. Ford.....	5 00
Georges Society	4 00
Houghton Mifflin & Co.....	52 25
Charles W. Johnson	1 50
George F. Lasher.....	2 00
Charles F. Libbie & Co.....	112 20
Little, Brown & Co.....	46 52
George E. Littlefield	33 10
L. C. Manchester.....	3 00
McMillan & Co	3 15
Middlesex Mechanics Association	3 90
Providence Public Library.....	4 85
S. Raymond Roberts, Treasurer....	40 00
A. H. Roffe & Co.....	10 00
Sampson, Murdock & Co.....	7 00
P. B. Sanford.....	47 35
Sanford & Finck.....	2 50
Carl Schoenhof.....	65 35
Charles Scribner's Sons.....	6 50
Edward H. Sheldon.....	8 00
John G. Shea.....	5 00
B. F. Stevens.....	2,178 60
Studies in Historical and Political Science	3 00
Ticknor & Co.	8 00
H. Williams	77 16

Amounts carried forward....

\$7,147 25

\$6,567 39

Amounts brought forward..... \$7,147 25 \$6,567 39

Paid for BOOKS AND PERIODICALS:

To G. H. Wilson.....	1 00	
Arena Newspaper Co.	1 00	
Campbell & Hanscom	9 00	
Citizen Newspaper Co.....	5 00	
Journal of the Engineering Societies	2 50	
Lepine & Co	1 00	
Library Bureau.....	81 93	
Lowell Daily Courier.....	6 00	
Morning Mail Corporation.....	9 00	
Office Publisher's Weekly.....	11 05	
G. C. Prince & Son	703 60	
Rand, McNally & Co.....	25 00	
American Library Association	3 00	
United States Naval Institute.....	1 00	
P. F. Van Everen.....	2 25	
Stone & Donner, for freight, wharfage and cartage of books	28 54	
	<hr/>	\$8,038 12

Paid for SUNDRIES:

To Appropriation for Public Buildings, for lumber and labor.....	37 69
Lowell Gas Light Co., for Gas.....	156 09
Lowell Electric Light Corporation	988 17
N. E. T. & Teleg. Co., for service	48 00
Fred. A. Chase, for postage, office expenses, etc.....	256 78
W. H. Gilman, for washing towels	2 52
Mark Holmes Jr., for magazine case	10 00
H. B. Shattuck & Son, for hardware	3 64
H. R. Barker Manufacturing Co., for fittings and labor.....	23 03
Thompson Hardware Co., for hinges	50
Bachelor, Dumas & Co., for binding and repairing books.....	1,112 31
James R. Bailey, for paper.....	9 40
Butterfield Printing and Binding Co., for binding.....	5 50
Citizen Newspaper Co., for printing	86 15

Amounts carried forward..... \$2,739 78 \$14,605 51

Amounts brought forward \$2,739 78 \$14,605 51

Paid for SUNDRIES :

To Thomas H. Lawler, for stationery, etc	22 05
M. R. Warren, for paper.....	2 50
Baker Telephone Index and Tablet Co., for index.....	2 50
J. M. Fellows, for stamps.....	50
P. F. Van Everen, for numbers....	10 75
Hammond Typewriter Co., for ribbon and ink.....	2 85
F. Blanche Hard, for typewriting	2 98
Clinton L. Bruce, for mender cloth	14 25
J. G. Roberts & Co., for binding material.....	23 40
W. H. Spalding & Co., for paste	4 00
Goodyear Gossamer Co., for rubber mat	2 00
M. F. Gookin, for hassocks and re- seating chairs.....	2 25
Albert N. Harmon, for frames....	6 50
Alvin Lawrence, for repairing clock	1 25
Edward Cawley, for coal.....	13 50
C. B. Coburn & Co., for brushes, sponge, etc.....	28 95
Daniel Gage, for ice.....	60 66
E. T. Abbott, for insurance.....	7 50
H. C. Church & Son, for insurance	22 50
Coburn & Sherman, for insurance	22 50
Thomas L. Dickey, for insurance	7 50
N. W. Norcross & Co., for insurance	90 00
Fred H. Ela, Agt., for rent.....	190 00
Irvine Block, for rent.....	165 00
F. D. Munn & Son, for rent.....	437 50
Trustees, A. H. Hosford, for rent and heating.....	811 00
Arthur H. Hosford, for rent.....	300 00
Richardson, Hosford and Pollard, Trustees, for rent.....	300 00
George E. Stanley, for transporta- tion	6 10
Boston & Maine Railroad, for trans- portation	27

Amounts carried forward..... \$5,300 54 \$14,605 51

Amounts brought forward..... \$5,300 54 \$14 605 51

Paid for SUNDRIES :

To Boston & Maine Railroad, W. D., for transportation.....	2 43	
	<hr/>	5,302 97
Total Expenditure for the year 1892....		<hr/> \$19,908 48
Balance undrawn Dec. 31, 1892....		7,232 86
		<hr/>
		<u><u>\$27,141 34</u></u>

HEALTH.

Appropriation	\$25,000 00	
	<hr/>	\$25,000 00

RECEIPTS.

Received into the Treasury on account
of HEALTH:

From Appropriation for Paupers, for blankets, repairing harnesses, etc	\$17 00	
Appropriation for Water Works, discount on water bill.....	7 68	
F. A. Bates, for sales of offal	971 00	
H. H. Knapp, for sales of offal	2,244 25	
Commissioners of Sinking Funds, on loan.....	8,000 00	
	<hr/>	11,239 93
		<hr/>
		\$36,239 93
Transferred from Reserved Fund.....		8,000 00
		<hr/>
		\$44,239 93
		<hr/>

EXPENDITURE

Paid BOARD OF HEALTH:

To James B. Field, salary.....	\$600 00	
Charles R. Costello, salary.....	600 00	
	<hr/>	\$1,200 00
		<hr/>
<i>Amount carried forward.....</i>		\$1,200 00

<i>Amount brought forward.....</i>	\$1,200 00
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Paid Sundry persons, for labor.....	\$24,066 25	
	<u> </u>	\$24,066 25

Paid for HAY, GRAIN, ETC.:

To	Wm. W. Butler, for hay.....	77 00
	Timothy Donovan, for hay.....	13 31
	G. M. Foster, for hay.....	109 30
	W. P. Foy, for corn and shorts....	56 53
	C. H. Hanson & Co., for hay and straw.....	471 50
	George G. Kelly, for hay.....	204 59
	Wm. E. Livingston, for oats and meal.....	173 91
	T. J. McDonald, for hay, oats and meal.....	755 23
	E. S. Sherman & Co., for corn	25 20
	A. G. Stiles & Co., for oats, corn, etc.....	526 54
	C. C. Thompson, for hay.....	108 87
	Wm. H. Wiggin, for hay.....	138 68
	E. N. Wood & Co., for oats, corn, meal and salt.....	362 71
		<hr/>
		3,023 37

Paid for HORSES, CARRIAGES,
HARNESSES, ETC:

To Appropriation for Roads and Bridges, for repairing carriages, harnesses, etc.....	\$753 55	
T. M. Bolton, for bells, blankets, harnesses and repairing.....	567 65	
Charles Clapp, for horses.....	500 00	
C. Crevier, for repairing carriage..	8 80	
J. C. Donovan, for blankets and repairing harnesses.....	17 00	
Eagle Harness and Leather Oil Co., for oil.....	1 60	
H. F. Ebert, for repairing harnesses, etc.....	128 10	
Fay Bros. & Hosford, for phaeton and sanitary cart.....	510 00	
<i>Amounts carried forward.....</i>	<i>\$2,486 70</i>	<i>\$28,289 62</i>

Amounts brought forward \$2,486 70 \$28,289 62

Paid for HORSES, CARRIAGES,
HARNESSES, ETC.:

To C. H. Hanson, for horses, collars, etc	519 00	
Sawyer Carriage Co., for sleigh....	50 00	
M. J. Sullivan, for breechings....	36 00	
C. C. Thompson, for hoof packing, shoeing, etc.....	27 00	
J. H. Swett, for repairing carriages	121 98	
	<hr/>	3,240 68

Paid for SUNDRIES:

To Appropriation for Roads and Bridges, for surveying.....	6 00	
Appropriation for Watering Streets, for assessments	12 24	
Appropriation for Paupers, for wood	4 00	
Appropriation for Police, for ser- vices	4 13	
Appropriation for Public Buildings, for labor and material.....	15 79	
Appropriation for Water Works, for water.....	158 64	
Lowell Gas Light Co., for gas.....	83 38	
N. E. Tel. & Teleg. Co., for service	161 86	
Buruham & Davis, for lumber.....	203 98	
Mark Holmes, Jr. & Son, for lum- ber and labor.....	2 70	
Howe Lumber Co., for lumber.....	1 80	
Charles E. Adams, for hardware...	30 46	
Boutwell Bros, for iron, steel, bolts, chains, etc.....	310 64	
Bartlett & Dow, for hardware, tools, etc	88 57	
T. Costello & Co., for pipe, pans, labor, etc.....	102 49	
W. A. Mack & Co., for ash cans and damage to wagon	6 00	
Rice & Co., for wire cloth.....	2 62	
J. Warren Smith, for thermometer	3 15	
	<hr/>	<hr/>
<i>Amounts carried forward</i>	\$1,228 45	\$31,530 3

Amounts brought forward \$1,228 45 \$31,530 30

Paid for SUNDRIES :

To H. H. Wilder & Co., for cans and pails.....	4 50	
C. Zimmer, for lock and keys.....	2 55	
H. M. Alexander & Co., for vaccine points.....	42 50	
C. F. Blanchard, for medicines....	17 55	
Carleton & Hovey, for medicine....	2 15	
R. W. Carman, for disinfectants....	7 50	
Charles E. Carter, for medicine....	5 70	
Thomas H. Clough, for oil.....	1 00	
C. B. Coburn & Co., for oil, alcohol, pails, etc.....	158 08	
Eagle Harness and Leather Oil Co., for oil.....	1 60	
Goodale & Co., for bulbs	18 00	
Charles H. Hanson, for medicine..	11 00	
Ingalls Manufacturing Co., for soap	4 00	
Smith & Goold, for lotion.....	3 00	
W. H. Spalding & Co., for glass....	1 20	
Talbot Dyewood & Chemical Co., for chemicals.....	6 49	
J. W. Bennett Co., for windows, lumber and labor.....	10 49	
Daniel Gage, for ice, wood and coal,	33 27	
E. F. Hathaway, for signs.....	12 00	
Edward Cawley, for coal.....	60 15	
William E. Livingston, for lime and cement.....	2 35	
P. O'Hearn, for guys and couplings,	18 45	
John Cross, for canvas sheets....	21 00	
Goodyear Gossamer Co., for boots, slippers, etc.....	11 70	
A. G. Pollard & Co., for cotton cloth, flannel, etc.....	19 41	
J. F. Puffer & Son, for mattresses and pillows.....	16 00	
Campbell & Hanscom, for subscription, postals, printing and advertising.....	48 50	
Daily News Co., for advertising....	1 50	
Morning Mail Corporation, for advertising.....	2 83	
<i>Amounts carried forward</i>	<u>\$1,772 92</u>	<u>\$31,530 30</u>

Amounts brought forward \$1,772 92 \$31,530 30

Paid for SUNDRIES:

To Lowell Daily Courier, for subscrip- tion	6 00
The Engineering Record, for sub- scription	5 00
The Sanitary Era, for subscription	1 50
The Sunday Arena, for advertising	3 00
P. Blackiston, Son & Co., for book	6 00
Thomas H. Lawler, for stationery	28 95
Little, Brown & Co., for map and books	13 60
J. Merrill & Son, for books and stationery	6 31
Cutter, Tower & Co., for typewriter	60 00
A. I. Ross, for typewriting.....	29 78
A. W. Baekr, for veterinary dent- istry.....	18 00
James B. Field, for professional services	4 00
J. Arthur Gage, for professional services	5 00
Guy Holbrook, for professional ser- vices.....	2 00
W. A. Johnson, for professional ser- vices.....	287 00
C. S. Lilley, for professional ser- vices.....	170 00
A. H. McCann, for professional ser- vices.....	2 00
F. C. Plunkett, for professional ser- vices.....	5 00
Pratt & Quinn, for professional ser- vices.....	10 00
W. A. Sherman, for professional services	33 50
J. H. Sparks, for professional ser- vices.....	4 00
Bridget Donnelly, for care of rooms	30 00
Mary Smith, for care of rooms.....	20 00
Everett Howard, for labor.....	3 00
H. H. Knapp, for travelling ex- penses, entertainment of visit- ors, office expenses, etc.....	198 47

Amounts carried forward..... \$2,725 03 \$31,530 30

Amounts brought forward..... \$2,725 03 \$31,530 30

Paid for SUNDRIES :

To F. E. Saunders, for barometer and temperature readings	134 00	
Peter Davey, for burial of Thomas Mills	6 50	
Massachusetts Association Board of Health, for assessment	9 00	
Thomas C. Lee, Agt., for insurance	37 50	
Stickney & Austin, for plans and specifications for new stable and shed	300 00	
Irvine Block, for rent	433 31	
Proprietors of Locks and Canals, for rent of land and construction of sewer and sidewalk	57 67	
Luther Richards & Co., for removing and repairing bath house.....	210 00	
Charles H. Ricker, for professional services	2 00	
Fred A. Fox, for cleaning cellar...	32 00	
George F. Atkins, for carriage hire	35	
Charles Clapp, for use of horse....	11 00	
C. H. Hanson & Co., for medicine and use of horse	73 50	
John McCaffery, for carriage hire	2 00	
Morse & Sparks, for carriage, harness and carriage hire	98 05	
Murphy & Bingham, for carriage hire	3 00	
Daniel McCarthy, for teaming.....	2 00	
American Express Co., for transportation	20	
Boston & Maine Railroad, Southern Division, for transportation...	50	
Ingalls Sanitary and Cremation Co., for garbage cremator.....	7,500 00	
Conners Bros., for coal.....	115 90	
Daniel Gage, for wood.....	88 05	
	<hr/>	11,841 56
Total Expenditure for the year 1892...		\$43,371 86
Balance undrawn Dec. 31, 1892.....		868 07
		<hr/>
		\$44,239 93

WATER WORKS.

Balance undrawn Jan. 1, 1892.....	\$26,558 53	
	<u>26,558 53</u>	\$26,558 53

RECEIPTS.

Received into the Treasury on account
of WATER WORKS:

From Sundry persons, for water, etc. in 1888	\$3 50	
Sundry persons, for water, etc. in 1889	11 25	
Sundry persons, for water, etc. in 1890	165 83	
Sundry persons, for water, etc. in 1891	26,641 64	
Sundry persons, for water, etc. in 1892	177,537 37	
Radford Pipe and Foundry Co., for forfeiture of guarantee. .	1,000 00	
	<u>205,359 59</u>	
		\$231,918 12

EXPENDITURES.

Paid PRESIDENT AND SUPER-
INTENDENT:

To Miles F. Brennan, President, salary	\$400 00	
Samuel P. Griffin, Superintendent, salary ..	100 00	
	<u>500 00</u>	
<i>Amount carried forward.....</i>	<i>\$500 00</i>	

<i>Amount brought forward</i>	\$800 00	
Paid PRESIDENT AND SUPER- INTENDENT:		
To Robert J. Thomas, Superintendent, salary.....	1,200 00	
	<hr/>	\$2,000 00
Paid Sundry persons, for labor....	\$44,831 01	
	<hr/>	44,831 01
Paid Appropriation for City Debt, in- stallment on note dated March 9, 1891.....	\$6,000 00	
	<hr/>	6,000 00
Paid for INTEREST:		
To Sundry persons, on City of Lowell Water Bonds.....	\$31,900 00	
Lowell Institution for Savings, on notes	12,080 00	
City Institution for Savings, on notes	3,270 00	
Blake Bros. & Co., on note.....	3,000 00	
	<hr/>	50,230 00
Paid Sundry persons, refunds on water rates	1,384 04	
	<hr/>	1,384 04
Paid for FUEL:		
To Daniel Gage, for coal.....	\$156 74	
D. W. Horne & Son, for coal.....	5,822 96	
Wm. E. Livingston, for coal.....	187 11	
E. A. Wilson, Agt., for coal.....	51 19	
Franklin T. Wilson, for wood.....	6 00	
	<hr/>	6,224 00
Paid for PIPE, METERS, HY- DRANTS, ETC.:		
To Builders Iron Foundry, for pipe, fittings, etc	\$562 16	
<i>Amounts carried forward</i>	\$562 16	\$110,669 05

Amounts brought forward..... \$562 16 \$110,669 05

Paid for PIPE, METERS, HY-
DRANTS, ETC.:

To Chapman Valve Mfg. Co., for tees, valves, hydrants, etc.....	2,381 13
Dalton Ingersoll Co., for stops.....	637 35
Eddy Valve Co., for hubs, valves, etc.	2,266 07
Hersey Manufacturing Co., for meters, boxes, connections, etc.	110 00
Holyoke Hydrant and Iron Works, for hydrant.....	51 00
Ludlow Valve Manufacturing Co., for gate, hydrants, gears, caps, etc.	621 00
Michigan Brass and Iron Works, for hydrant.....	28 50
National Meter Co., for meters and repairing	5,041 20
N. E. Water Pipe Co., for pipe.....	225 38
Peet Valve Co., for gate, valves, etc.	30 00
Pennichuck Water Works, for pipe,	98 17
Pittsburgh Testing Laboratory, for testing pipe.....	469 55
Proprietors of Locks and Canals, for pipe.....	155 33
Radford Pipe and Foundry Co., for pipe.....	18,401 46
Reliance Gauge Co., for gauges....	22 50
Staples Bros., for pipe.....	333 42
Starr Brass Manufacturing Co., for marble slab, etc.....	25 00
Anthony P. Smith, for tapping ap- paratus	547 00
Walworth Manufacturing Co., for dies, valves and fittings	819 41
Whittier Machine Co., for water gates and elevator.....	1,022 48
Henry R. Worthington, for packing,	1 92
R. D. Wood & Co., for pipe.....	4,238 37
H. R. Barker Manufacturing Co., for pipe, fittings, etc.....	548 77
T. Costello & Co., for lead pipe, funnels, fittings, etc.....	9,327 80

Amounts carried forward.... \$47,964 97 \$110,669 05

Amounts brought forward \$47,964 97 \$110,669 05

Paid for PIPE, METERS, HY-
DRANTS, ETC.:

To Farrell & Conaton, for pipe, fittings and labor.....	1,096 94	
Hewes & Gordon, for pipe and fittings	2 28	
S. H. Jones, for valves, etc.....	32 59	
	<hr/>	49,096 78

Paid for SUNDRIES:

To Appropriation for Roads and Bridges, for labor and material and engineering.....	1,019 55	
Appropriation for Watering Streets, for assessment	5 22	
Appropriation for Fire Department, for hose	6 00	
Appropriation for Public Buildings, for labor and material.....	913 48	
Appropriation for New Pumping Engine, for amount expended in excess of \$60,000.00 appro- priated for new pumping engine	1,741 36	
Lowell Electric Light Corporation, for lighting	376 00	
Lowell Gas Light Co., for gas.....	185 05	
N. E. T. & Teleg. Co., for service	447 41	
Commercial Union Teleg. Co., for telegrams	15 62	
Western Union Telegraph Co., for telegrams	15 04	
Otis Allen & Son, for sawdust.....	4 00	
A. L. Brooks & Co., for lumber....	214 44	
Burnham & Davis, for lumber. ...	114 38	
Hibbert & Smith, for sash and blinds	2 45	
Mark Holmes Jr. & Son, for lumber and labor.	3 84	
Howe Bros. & Co., for lumber.....	11 78	
Howe Lumber Co., for lumber.....	583 74	
	<hr/>	
<i>Amounts carried forward</i>	\$5,659 36	\$159,765 83

Amounts brought forward..... \$5,659 36 \$159,765 83

Paid for SUNDRIES:

To Amasa Pratt & Co., for lumber.....	25 12
Whittet & McDonald, for lumber and labor.....	1 98
R. M. West, for ladders.....	9 47
Charles E. Adams, for hardware..	4 63
American Bolt Co., for rods, bolts, washers, etc.....	116 64
Bartlett & Dow, for felt, hardware, etc	436 12
Boutwell Bros., for iron, steel, etc.	52 99
Callahan & Sanborn, for hardware	33 33
F. W. Cheney & Co., for hardware	2 13
H. B. Shattuck & Son, for hardware	9 72
Thompson Hardware Co., for hard- ware.....	156 54
Bacon & Co., for iron and steel....	13 19
K. H. Bancroft & Co., for battery cells	3 80
Alfred Box, for lift wheel.....	3 60
Wm. H. Carberry, for water post..	9 25
W. W. Carey, for pulleys	18 44
J. T. Carter & Co., for tanks.....	15 00
Champion Flue Scraper Co., for flue scrapers	3 75
Doherty Bros., for castings.....	95 32
W. B. Glover, for filing saws	2 55
Knowles Scale Works, for use of scales	8 75
Alvin Lawrence, for repairing clock	3 75
Lowell Machine Shop, for castings	8 13
Lowell Plating Co., for plating....	40
W. A. Mack & Co., for elbow.....	35
Merrimack Iron Foundry, for cast- ings	47 88
A. F. Nichols, for castings.....	199 14
Perrin, Seamans & Co., for tools....	232 86
Priest, Page & Co., for scales.....	150 00
Rice & Co., for wire cloth.....	169 48
Scannell & Wholey, for boilers, etc	2,811 32
S. C. & G. H. Smith, for screws and caps.....	1 85

Amount carried forward..... \$10,306 84 \$159,765 83

Amounts carried forward..... \$10,306 84 \$159,765 83

Paid for SUNDRIES:

To John F. Stack, for use of engineer's level	12 00
Starr Brass Manufacturing Co., for marble slab, bolts and fittings	48 00
Union Brass Foundry, for castings	9 09
H. H. Wilder & Co., for ladles, chains, etc.....	14 25
O. E. Averill, for blacksmithing....	110 51
Cahill Bros., for shoeing.....	32 60
T. J. Reynolds, for shoeing.....	103 85
Bennett & Conlon, for labor and material.....	797 00
F. W. Bennett, for stone	1 20
J. W. Bennett & Co., for lumber, labor, etc.....	100 36
C. J. Cheney Jr., for drain pipe....	9 97
Patrick Corcoran, for labor and material.....	317 60
Wm. E. Livingston, for lime and cement.....	146 55
E. A. & A. T. Smith, for concrete	375 15
Staples Bros., for pipe, etc.....	331 20
Walker & Vaughn, for mason work and material.....	8 50
F. W. Stickney, for services on elevation	20 00
Ame & Co., for standard food	13 50
James R. Dunning, for cutting and storing hay.....	69 38
W. P. Foy, for oats, corn, shorts, etc	163 62
Wm. E. Livingston, for shorts and salt.....	6 60
T. J. McDonald, for grain, oats, meal, etc.....	84 25
E. S. Sherman & Co., for hay	62 58
A. G. Stiles & Co., for hay, oats, etc.	137 96
E. N. Wood & Co., for hay, straw, etc.	83 79
D. L. Page Co., for refreshments...	26 50
Richardson's Hotel, for refreshments.....	12 50

Amounts brought forward..... \$13,405 35 \$159,765 83

Amounts brought forward \$13,405 35 \$159,765 83

Paid for SUNDRIES :

To Frank E. Shaw, for refreshments	51 27
John H. Burke & Co., for matches	13
Carleton & Hovey, for toilet paper, bottles, etc.	21 20
C. B. Coburn & Co., for oil, packing, waste, etc.	482 28
Donovan & Co., for forcite.....	28 68
Daniel Gage, for ice	56 46
Miller Bros., for matches.....	1 00
Wm. Nichols, for matches, candles, etc.	12 40
Simpson & Rowland, for soap.....	3 90
W. H. Spalding & Co., for paint, benzine, etc.	72 20
Talbot Dyewood & Chemical Co., for bottles, corks, etc.....	7 45
C. D. Washburn, for mop, soap, and ammonia.	1 99
Apsley Rubber Co., for atomizer bulb.....	50
Burnham & Page, for packing.....	6 00
Josiah Gates & Sons, for belting and repairing.....	40 28
Goodyear Gossamer Co., for hose and couplings.....	10 50
Page Belting Co., for hose, pipe, couplings, etc.....	193 88
E. F. Hathaway, for signs, and painting.....	9 55
Lowell Felting Mills, for felt.....	7 11
O'Sullivan Bros., for rubber boots	46 00
Early, Taff & Co., for paint and whitewashing	5 75
A. L. Kittredge & Co., for shades and labor.....	66 94
Stanton & Thurston, for watering street	2 25
Charles F. Dow, for shades, mats, cuspidors, etc	199 43
M. F. Gookin, for chairs, etc.....	8 75
A. N. Harmon, for frames.....	19 95
Maker & Morrill, for frames.....	1 25

Amounts carried forward \$14,762 45 \$159,765 83

Amounts brought forward..... \$14,762 45 \$159,765 83

Paid for SUNDRIES :

To H. C. McOsker, for paper, hanging, etc.....	8 41	
J. F. Puffer & Son, for chairs.....	2 75	
Robertson & Co. for book case.....	1 50	
E. C. Worcester, for repairing clock,	1 00	
G. W. Dudley, for repairing clock..	1 00	
Bacheller, Dumas & Co., for blank books, etc.....	172 20	
Citizen Newspaper Co., for blank book, envelopes, etc.....	92 50	
Campbell & Hanscom, for printing, envelopes, etc.....	8 50	
Fire & Water, for subscription...	3 00	
Harrington Bros., for envelopes, il- lustrations, etc.....	66 75	
Lowell Sun Job Print, for printing,	59 35	
The Engineering News Publishing Co., for advertising and sub- scription	9 20	
The Engineering Record, for adver- tising and subscription	8 40	
Vox Populi Press, for blank books, binding, envelopes, etc.....	152 30	
D. Van Nostrand Co., for treatise on hydraulics.....	15 00	
Thomas H. Lawler, for stationery..	85	
J. Merrill & Son, for pens, station- ery, mucilage, etc.....	16 10	
Taylor Bros., for stationery.....	27 10	
Baker Telephone Index and Tablet Co., for indexes and tablets....	10 50	
C. F. Hatch & Co., for straw board tubes	1 00	
J. S. Marion, for prints of new engine	15 00	
J. L. Severance, for stamps and pads	3 95	
Emma F. Estes, for typewriting...	12 57	
Lillian K. Hebert, for typewriting	4 35	
F. E. Rollins, for typewriting...	18 97	
Winckley, Dresser & Co., for ribbon and paper	4 85	

Amounts carried forward..... \$15,479 55 \$159,765 83

Amounts brought forward..... \$15,479 55 \$159,765 83

Paid for SUNDRIES:

To Sanborn, Perris Map Co, for map of Lowell.....	50 00	
John B. Coleman, for insurance....	15 00	
H. C. Church & Son, for insurance	427 78	
Wm. P. Atwood, for analysis of water.....	10 00	
A. S. Shaler, for services relating to water supply.....	250 00	
W. A. Johnson, for professional services.....	4 00	
Omer P. Porter, for professional services ...	30 00	
J. H. Sparks, for professional services.....	7 00	
George Bowers, for travelling expenses, etc.....	17 25	
M. F. Brennan, for expenses of Water Board.....	256 40	
S. P. Griffin, for travelling expenses, etc.	16 61	
Charles L. Knapp, for postage, expenses of Water Board, etc....	586 98	
George H. Barrus, for services at trials of engines.....	990 00	
Henry G. Morris, for expenses in examination of engine.....	75 00	
Henry G. Worthington, for labor and expenses	76 20	
Frank Leonard, for labor.....	20 00	
Patrick McGovern, for labor.....	27 00	
Lowell and Suburban Street Railway Co., for tickets.....	10 00	
Proprietors of Locks & Canals, for rent of land.....	217 50	
T. M. Bolton, for card, whip, curry-comb, repairing harnesses, etc.	52 95	
E. P. Bryant, for repairing carriages and shoeing.....	35 50	
J. E. Conant & Co., for halters	2 50	
John Cross, for repairing horse cover	75	
<i>Amounts carried forward</i>	\$18,657 97	\$159,765 83

Amounts brought forward \$18,657 97 \$159,765 83

Paid for SUNDRIES:

To J. C. Donovan, for repairing harnesses.....	9 15
F. J. Doherty, for repairing and painting carriages.....	59 90
Fay Bros. & Hosford, for exchange of wagon and repairing carriages	103 66
G. F. Hill, for repairing carriage...	50
H. O'Dowd & Co., for wagon.....	185 00
Frank Lapoint, for exchange of horses and medicine.....	80 60
Lowell and Suburban Street Railway, for horse.....	200 00
Fred G. McGregor, for exchange of horses	175 00
August Fels, for manure.....	10 00
W. P. Foye for manure.....	76 50
Cornelius Harrington, for manure	6 75
J. S. Murphy, for manure.....	16 25
American Express Co., for transportation	12 00
Boston Despatch Express Co., for transportation	10 85
Boston & Lowell Express Co., for transportation	1 35
Lovejoy, Paul Express Co., for transportation	4 25
Boston & Maine Railroad, for transportation	5 21
Boston & Maine Railroad, Southern Division, for transportation ...	813 62
Boston & Maine Railroad, Western Division, for transportation ...	2 84
G. E. Stanley, for transportation..	41 25
James Carney, for carriage hire....	4 50
Connors Bros., for teaming.....	106 87
Thomas Doyle, for teaming.....	27 00
James R. Dunning, for teaming:...	641 00
E. Duren, for teaming	8 00
Gregoire & Madden, for carriage hire	4 50
C. H. Hanson & Co. for teaming	114 75
Patrick H. Hunt, for teaming.....	1 00

Amounts carried forward..... \$21,450 27 \$159,765 83

Amounts brought forward..... \$21,450 27 \$159,765 83

Paid for SUNDRIES:

To Morse & Sparks, for carriage hire	35 05	
Murphy & Bingham, for carriage hire	47 00	
Wm. Partridge, for teaming	352 00	
John Richards, for teaming	5 00	
Wm. Roberts, for teaming	1 00	
J. H. Sparks, for carriage hire	115 75	
F. E. Stowell, for carriage hire	6 00	
Otis Peabody, for teaming	36 00	
Redmond Welch, for teaming	14 25	
James Welch, for carriage hire	111 00	
Wm. D. Andrews & Bro., for use of machinery, material and labor making tests at Pawtucket Boulevard	5,860 87	
J. W. Bennett & Co., for roofing buildings at Pawtucket Boulevard	7 70	
Wm. E. Livingston, for coal at Pawtucket Boulevard	101 65	
Talbot Dyewood & Chemical Co., for corks and bottles at Pawtucket Boulevard	2 75	
	<hr/>	28,141 79
Total Expenditure for the year 1892		\$187,907 62
Transferred Water Loan, Old Debt Sinking Fund Account		15,000 00
Balance undrawn Dec. 31, 1892		29,010 50
		<hr/>
		\$231,918 12

NEW PUMPING ENGINE.

Balance undrawn Jan. 1, 1892.....	\$8,905 54	
	<hr/>	\$8,905 54
Received from Appropriation for Water Works, for amount ex- pended in excess of \$60,000.00 appropriated.....	1,741 36	
	<hr/>	1,741 36
		<hr/> <u>\$10,646 90</u>

EXPENDITURES,

Paid for SUNDRIES:

To Appropriation for Public Buildings, for labor and material.....	629 94
George H. Barrus, for services in examination of engine and boiler	113 00
Henry R. Worthington, on account of contract for engine.....	9,139 93
Henry R. Worthington, for pipe and castings.....	90 13
American Bolt Co., for bolts.....	7 20
Bennett & Conlon, for brick, cement, etc	550 41
J. W. Bennett & Co., for sash, lumber and labor	53 99
	<hr/>
<i>Amount carried forward</i>	\$10,584 60

Amount brought forward \$10,584 60

Paid for SUNDRIES:

To Rice & Co., for wire cloth.....	30 80
Boston & Maine Railroad, Western Division, for transportation...	31 50

Total Expenditure for the year 1892...	<u> </u>	<u>\$10,646 90</u>
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DRIVEN WELL PLANT.

Received from Lowell Institution for Savings on loan.....	\$100,000 00	
	<u> </u>	<u>\$100,000 00</u>
 Paid Engineering News Publishing Co., for advertising.....	 \$4 80	
	<u> </u>	\$ 4 80
Balance undrawn Dec. 31, 1892.....		99,995 20
		<u> </u>
		<u>\$100,000 00</u>

SALARIES.

Balance undrawn Jan. 1, 1892.....	\$ 40 68	
Appropriation	20,000 00	
	<hr/>	\$20,040 68
Transferred from Reserved Fund.....		10,000 00
		<hr/>
		<u>\$30.040 68</u>

EXPENDITURES.

Paid SALARIES OF SUNDRY OFFICERS:

To George W. Fifield, Mayor.....	\$2,500 00
Austin K. Chadwick, City Treasurer and Collector of Taxes.....	2,500 00
Michael J. Dowd, City Clerk.....	1,800 00
David Chase, Auditor of Accounts and Clerk of the Common Coun- cil.....	1,800 00
John J. Hogan, City Solicitor	2,000 00
Henry Hoole, City Messenger.	155 17
James H. Cahill, City Messenger...	1,044 83
William P. Lawler, City Physician	700 00
Nathaniel E. Annis, Sealer of Weights and Measures.....	300 00
Thomas O. Allen, Inspector of Milk, Vinegar, etc.	900 00
Orren C. Carleton, Fish Warden....	40 00
William Seaver, Pound Keeper....	2 08
Lawrence J. Thyne, Pound Keeper.	22 92
Abel Wheeler, Assessor of Taxes, (Chairman.)	2,250 00
	<hr/>
<i>Amount carried forward.....</i>	<i>\$16,015 00</i>

Amount brought forward..... \$16,015 00

Paid SALARIES OF SUNDRY
OFFICERS:

To James Scott, Assessor of Taxes, (Secretary)	42 34	
Nathan D. Pratt, Assessor of Taxes, (Secretary)	2,250 00	
John P. Mahoney, Assessor of Taxes	2,207 66	
Michael J. Garvey, Assistant As- sessor	1,200 00	
Robert L. Read, Assistant Assessor,	1,200 00	
John E. Maguire, Assistant Assessor	1,200 00	
C. Arthur Abbott, Assistant As- sessor	1,200 00	
George S. Cheney, Assistant As- sessor	16 13	
Avila Bourbonniere, Assistant As- sessor	1,183 87	
Fred N. Edgell, Assistant Assessor,	1,200 00	
Charles H. McIntire, Registrar of Voters, (Chairman.).....	550 00	
James F. Owens, Registrar of Voters	500 00	
Abbott Lawrence, Registrar of Voters.....	500 00	
Michael J. Dowd, Registrar of Voters (Secretary)	400 00	
Total Expenditure for the year 1892...		\$29,665 00
Balance undrawn, Dec. 31, 1892.....		375 68
		<hr/>
		\$30,040 68
		<hr/>

STATE AID.

For disabled Soldiers and Sailors, and
their Families, and for the Families
of the Slain, under an Act of the
Legislature of the Commonwealth,
Chapter 192, approved May 4, 1877,
and previous acts :

Received from Commissioners of Sinking
Funds, as per resolution passed by
City Council, Dec. 21, 1892.....

\$9,044 57

\$9,044 57

To overdraft Jan. 1, 1892.....

\$9,044 57

\$9,044 57

STATE AID.

Balance undrawn Jan. 1, 1892.....	\$11,792 57	
Appropriation	3,000 00	
	<hr/>	\$14,792 57

RECEIPTS.

Received into the Treasury on account
of STATE AID:

From Commonwealth, for reimburse-
ment for State Aid of 1891.. \$14,136 25

Sundry persons, amounts returned
to Treasury as follows:

W. G. Aham.....	12 00
Wallace Bascom.....	4 00
A. B. Bean.....	2 00
Peter Campbell.....	1 00
John W. Carter.....	3 00
Walker Clapp.....	4 00
G. H. Cole.....	1 00
Andrew Conner.....	6 00
Michael Conway.....	3 00
Patrick Crowley	4 00
W. D. Day.....	4 00
Joseph Donnelly.....	4 00
J. F. Dorsey.....	3 00
J. Finnegan.....	4 00
J. P. Fitzgerald.....	4 00
B. F. Foster.....	6 00
Edward Garrity	4 00
George Graham.....	2 00
J. S. Hall.....	12 00

<i>Amount carried forward</i>	<hr/> \$14,219 25
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Amount brought forward \$14,219 25

Received into the Treasury on account
of STATE AID.

From Sundry persons amounts returned
to Treasury as follows:

Moses Harmon.....	9 00
H. H. Harris.....	4 00
W. H. Hazard.....	2 00
Frank Havey	6 00
A. H. Hodgman.....	3 00
N. D. Hosmer.....	4 00
Charles C. Howe.....	4 00
J. H. Johnson.....	6 00
Ed. Kelley....	4 00
S. H. Lane.....	6 00
Martin Lane.....	4 00
A. Libby.....	4 00
C. H. Loring.....	5 00
Thomas Mangan.....	3 00
J. P. Maxfield.....	8 00
Michael McAloon.....	4 00
B. McCabe.....	6 00
James McGuirk.....	12 00
Thomas McNabb.....	4 00
Joseph O. Merrill.....	4 00
Thomas Murray.....	4 00
M. J. Noonan.....	1 00
John Pierce.....	4 00
A. J. Pike.....	4 00
Wm. Quigley.....	2 00
J. E. Quinn.....	12 00
Gordon Reed.....	4 00
John Regan.....	4 00
Michael Rogers.....	3 00
Almon Smith.....	2 00
J. Smith.....	4 00
Michael Smith.....	4 00
D. C. Stevens.....	4 00
P. Sullivan.....	8 00
James Wilson	6 00
J. B. Whitney.....	4 00
George Wyman.....	4 00

\$14,395 25

\$29,187 82

EXPENDITURES.

Paid Sundry persons, aid rendered in 1892.....	\$15,151 00	
H. M. Potter, for travelling expenses, etc.....	36 65	
Thomas H. Lawler, for stationery,	1 00	
Morning Mail Corp., for blank books.....	10 25	
J. Merrill & Son, for ink and paper,	1 15	
J. A. Chase, for carriage hire.....	5 00	
Morse & Sparks, for carriage hire.	2 00	
		<hr/>
Total expenditure for the year 1892....	\$15,207 05	
Balance undrawn, Dec. 31, 1892.....	13,980 77	
		<hr/>
	\$29,187 82	<hr/>

AID FOR INDIGENT SOLDIERS AND SAILORS.

Balance undrawn, Jan. 1, 1892... ..	\$4,770 65	
Appropriation	4,000 00	
	\$8,770 65	

RECEIPTS.

Received into the Treasury on ac-
count of AID FOR INDIGENT
SOLDIERS AND SAILORS:

From Commonwealth, for reimburse- ment of aid for 1891.....	\$4,044 00	
Sundry persons, amounts returned to Treasury as follows:		
W. Burke.....	3 10	
R. Cummings.....	6 00	
J. Leary.....	10 00	
John McDonald.....	18 00	
L. S. Smith.....	4 00	
Matthew Steaken	2 00	
R. E. Stone	6 00	
J. O'Sullivan.....	6 00	
	\$4,099 00	
		\$12,869 65
Paid for aid rendered sundry persons in 1892	\$6,194 00	
	\$6,194 00	
Balance undrawn Dec. 31, 1892.....		6,675 65
		\$12,869 65

CITY DEBT.

Balance undrawn Jan. 1, 1892.....	\$	9,073 37
Appropriation.....		172,400 00
		\$181,473 37

RECEIPTS.

Received into the Treasury on account
of CITY DEBT:

From Appropriation for Water Works, for instalment due on note, dated March 9, 1881.....	\$	6,000 00
Commissioners of Sinking Funds, amount of Sinking Fund, for Aiken Street Bridge.....		195,000 00
Commissioners of Sinking Funds, amount of Sinking Fund, for New Buildings at City Farm,		60,000 00
Commissioners of Sinking Funds, amount of Sinking Fund for Loan of 1882.....		30,000 00
Commissioners of Sinking Funds, amount of Sinking Fund for Central Bridge... ..		120,000 00
Commissioners of Sinking Funds, amount for redemption of notes and bonds as per resolu- tion of City Council.....		265,500 00
		\$676,500 00
		\$857,973 37

EXPENDITURES.

Paid on account of WATER DEBT:

To Lowell Institution for Savings, instalment on note.....	\$6,000 00	
	<hr/>	\$6,000 00

Paid on account of ORDINARY CITY DEBT:

To Sundry persons bonds which matured during the year 1892.....	\$22,500 00	
Lowell Institution for Savings, instalments on notes.....	73,000 00	
Lowell Institution for Savings, note dated May 1, 1882.....	195,000 00	
Lowell Institution for Savings, note dated June 9, 1882.....	60,000 00	
Lowell Institution for Savings, note dated Sept. 1, 1882.....	30,000 00	
Commissioners of Sinking Funds, installments on notes.....	42,600 00	
Commissioners of Sinking Funds, sundry notes paid before maturity as per resolution of City Council	265,500 00	
Blake Bros. & Co., installment on note.....	22,000 00	
Essex Savings Bank, installment on note.....	5,400 00	
Salem Five Cent Savings Bank, installment on note.....	5,000 00	
Central Savings Bank, installment on note.....	1,900 00	
Sundry persons, Central Bridge Bonds	120,000 00	
	<hr/>	842,900 00
Total Expenditure for the year 1892....		\$848,900 00
Transferred to Appropriation for Water Loan Old Debt Sinking Fund.....		9,073 37
		<hr/>
		<u>\$857,973 37</u>

INTEREST.

Balance undrawn Jan. 1, 1892	\$ 1,139 64	
Appropriation	90,000 00	
	<hr/>	\$91,139 64

RECEIPTS.

Received into the Treasury on account
of INTEREST:

From Sundry persons, interest on taxes	\$8,173 88	
Lowell Institution for Savings, premium and accrued inter- est on notes.....	3,200 00	
Central Savings Bank, for pre- mium on notes.....	950 00	
Lowell Trust Company, interest on daily balances	8,891 33	
	<hr/>	21,215 21
		<hr/>
		<u>\$112,354 85</u>

EXPENDITURES

Paid on account of INTEREST:

To Lowell Institution for Savings (Temporary Loan)....	\$ 2,383 34
Lowell Institution for Savings	31,332 82
Lowell Five Cent Savings Bank...	1,625 00
Salem Five Cent Savings Bank....	1,400 00
	<hr/>
<i>Amount carried forward</i>	<i>\$36,740 66</i>

Amount brought forward \$36,740 66

Paid on account of INTEREST :

To Central Savings Bank.....	2,660 00	
Essex Savings Bank.....	1,512 00	
Commissioners of Sinking Funds..	11,334 00	
Trustees Est. Thomas Nesmith....	1,560 00	
Trustees Est. Jonathan Tyler.....	600 00	
Sundry persons for interest coupons on sundry bonds.....	42,010 00	
Lucy E. Nesmith, interest on guarantee deposit.....	77 77	
Thomas Nesmith, for interest on guarantee deposit.....	40 00	
	<hr/>	
Total Expenditure for the year 1892		\$96,534 43

TRANSFERS.

To Appropriation for Sewers and Drains	\$5,132 01	
Appropriation for Commons	1,077 35	
Appropriation for Printing and Ad- vertising.....	74 62	
Appropriation for City Cemeteries	428 89	
	<hr/>	6,712 87
		<hr/>
		\$103,247 30
Balance undrawn Dec. 31, 1892.....		9,107 55
		<hr/>
		\$112,354 85
		<hr/> <hr/>

NATIONAL BANK TAX.

Balance undrawn Jan. 1, 1892.....	\$4,708 68	
Assessed on Stocks in National Banks, owned by non-residents in 1892..	17,616 16	
Received from Commonwealth on ac- count of Tax of 1892.....	4,880 87	
	<hr/>	<u>\$27,205 71</u>

EXPENDITURES.

Paid Commissioners of Sinking Funds..	\$ 4,708 68	
Commonwealth on account of Tax of 1891.....	136 59	
Commonwealth on account of Tax of 1892.....	17,557 93	
	<hr/>	
Total expenditure for the year 1892....		22,403 20
Balance undrawn Dec. 31, 1892.....		4,802 51
		<hr/>
		<u>\$27,205 71</u>

STATE TAX.

Assessed in 1892.....	\$54,421 79	
		<u>\$54,421 79</u>

EXPENDITURES.

Paid Commonwealth, State Tax of 1890, (ordinary).....	\$49,507 50	
Commonwealth, on account of Armory Loan.....	1,764 29	
Commonwealth on account of in- terest on Armory Loan.....	3,150 00	
		<u>\$54,421 79</u>

COUNTY TAX.

Assessed in 1892.....	\$55,276 39	
		<u>\$55,276 39</u>

EXPENDITURES,

Paid County of Middlesex.....	\$55,276 39	
		<u>\$55,276 39</u>

TAXES.

The amount of Taxes assessed on the Polls and on the Real and Personal Estate, within the City of Lowell, for the year 1892, was as follows, viz. :

Valuation of and Tax on Real and Personal Property.

VALUATION.	RATE.	TAX.
Of Personal Property, \$17,213,834	\$16,80 per \$1,000	\$289,192.41
Real Estate, 47,503,470	16,80 per 1,000	798,058.30
Total Valuation, <u>\$64,717,304</u>	Tax on Property,	<u>\$1,087,250.71</u>
Number of Polls, 22,789, at \$2.00 each	\$45,596 00	
Number of Polls, 88, at \$0.50 each.....	44 00	
		<u>\$45,640 00</u>
		<u>\$1,132,890 71</u>
Tax assessed on shares of stock in the National Banks of Lowell held by non-residents, and which are not included in the City Valuation.....	\$17,616 16	
		<u>17,616 16</u>
Grand Tax Total.....		<u><u>1,150,506 87</u></u>

Appropriated and Assessed in 1892.

For City Appropriation.....	1,002,200 00
State Tax.....	54,421 79
County Tax.....	55,276 39
National Bank Tax (non residents).	17,616 16
Overlays	20,992 53
Total Tax Levy	<u><u>1,150,506 87</u></u>

TAXES.

	Due Jan. 1, 1892. Assessed in 1892.	Abated in 1892.	Collected in 1892.	Due Dec. 31, 1892.
Taxes of 1887	\$218 88			218 88
Taxes of 1888	464 55		\$2 00	462 55
Taxes of 1889	33,713 71	\$14,977 83	114 12	18,621 76
Taxes of 1890	60,813 06	602 46	44 827 33	15,383 27
Taxes of 1891	144,604 30	1,200 08	95,324 54	48,079 68
Taxes of 1892	1,150,506 87	4,035 76	989,739 78	156,731 33
	\$1,390,321 37	\$20,816 13	\$1,130,007 77	\$239,497 47

ABATEMENT OF TAXES.

Balance undrawn Jan. 1, 1892.....	\$10,336 04	
Overlays assessed in 1892..	20,992 53	
	<hr/>	<u>\$31,328 57</u>

EXPENDITURES.

To Massachusetts Cotton Mills on tax of 1888.....	908 46
Massachusetts Cotton Mills, on tax of 1889.....	930 53
Massachusetts Cotton Mills, on tax of 1890.....	591 60
Samuel N. Wood, for excessive taxation from 1880 to 1890.....	200 00
Joshua M. Daniels, on tax of 1888,	68 90
George H. Stevens, on tax of 1888..	55 13
Eri G. Baker, on tax of 1890 and 1891.....	16 30
James D. Jones, on tax of 1890 and 1891.....	6 14
Stanley & Co., on tax of 1890.....	17 00
Emma Smith, on tax of 1890.....	4 76
Charles B. Coburn, on tax of 1891..	35 88
Edward J. Donovan, on tax of 1891,	2 75
H. P. Fairbanks, on tax of 1891....	3 90
Frank H. Hallett, on tax of 1891..	8 58
Fred Hallowell, on tax of 1891....	2 75
Annie L. Richmond, on tax of 1891,	6 55
Albert G. Swan, on tax of 1891....	46 02
Mrs. Henry F. Thatcher, on tax of 1891.....	9 67
Alexander Whittett, on tax of 1891,	7 80
James C. Abbott, on tax of 1892....	22 01

<i>Amount carried forward</i>	<u>\$2,943 78</u>
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Amount brought forward..... \$2,943 78

To William H. Anderson, on tax of 1892.....	43 19	
Mrs. Nathan Carp, on tax of 1892..	4 70	
Charles E. Carter, on tax of 1892..	9 58	
Henry G. Cushing, on tax of 1892..	15 62	
Mary W. Day, on tax of 1892.....	2 18	
Antoine Desaubnier, on tax of 1892,	2 00	
Caroline R. George, on tax of 1892,	10 08	
Annie Leach, on tax of 1892.....	6 55	
Catherine T. Lennon, on tax of 1892	8 23	
Lowell & Andover Railroad, on tax of 1892.....	9 41	
Michael McCann, on tax of 1892...	14 77	
Novelty Suspender Co., on tax of 1892.....	3 36	
Mrs. D. A. Parker, on tax of 1892	6 55	
Mrs. Wm. Whitehead, on tax of 1892.....	33 60	
David Fitzgerald, on claim settled by Committee on Claims	42 86	
George H. Stevens, for amount allowed on account of illegal tax title	70 32	
Sundry Persons, on account of tax of 1891.....	136 59	
		<hr/>
		\$3,363 37

Abated by Assessors Before Payment.

Sundry Persons, on taxes of 1889..	\$14,977 83	
Sundry Persons, on taxes of 1890..	602 46	
Sundry Persons, on taxes of 1891..	1,200 08	
Sundry Persons, on taxes of 1892..	4,035 76	
		<hr/>
		20,816 13
		<hr/>
		\$24,179 50
Balance undrawn Dec., 31, 1892.....		7,149 07
		<hr/>
		\$31,328 57
		<hr/>

TEMPORARY LOANS.

Received from Lowell Institution for		
Savings	\$400,000 00	
	<u> </u>	<u>\$400,000 00</u>
 Paid Lowell Institution for Savings....	 \$400,000 00	
	<u> </u>	<u>\$400,000 00</u>

SINKING FUNDS.

High School Sinking Fund.

Appropriated and assessed in 1892.....	\$3,000 00	
	<u> </u>	<u>\$3,000 00</u>
Paid Commissioners of Sinking Funds..	\$3,000 00	
	<u> </u>	<u>\$3,000 00</u>

City Hall and Memorial Building Sinking Fund,

Appropriated and assessed in 1892.....	\$7,500 00	
Received from N. W. Harris & Co., for premium and accrued interest on bonds	7,790 00	
	<u> </u>	<u>\$15,290 00</u>
Paid Commissioners of Sinking Funds..	\$15,290 00	
	<u> </u>	<u>\$15,290 00</u>

Sinking Fund for the Payment of the Loan of 1882.

Appropriated and assessed in 1892.....	\$2,500 00	
	<u> </u>	<u>\$2,500 00</u>
Paid Commissioners of Sinking Funds..	\$2,500 00	
	<u> </u>	<u>\$2,500 00</u>

Sinking Fund for New Buildings at City Farm,

Appropriated and assessed in 1892.....	\$7,000 00	<u>\$7,000 00</u>
Paid Commissioners of Sinking Funds..	\$7,000 00	<u>\$7,000 00</u>

Aiken Street Sinking Fund.

Appropriated and assessed in 1892.....	\$16,000 00	<u>\$16,000 00</u>
Paid Commissioners of Sinking Funds..	\$16,000 00	<u>\$16,000 00</u>

Central Bridge Sinking Fund.

Appropriated and assssed in 1892.....	\$16,000 00	<u>\$16,000 00</u>
Paid Commissioners of Sinking Funds..	\$16,000 00	<u>\$16,000 00</u>

Intercepting Sewer Fund.

Appropriated and assessed in 1892.....	\$5,000 00	<u>\$5,000 00</u>
Paid Commissioners of Sinking Funds..	\$5,000 00	<u>\$5,000 00</u>

Water Loan Sinking Fund.

Appropriated and assessed in 1892.....	\$16,000 00	<u>\$16,000 00</u>
Paid Commissioners of Sinking Funds..	\$16,000 00	<u>\$16,000 00</u>

Sinking Fund for High Service Water Supply.

Appropriated and assessed in 1892.....	\$1,800 00	
	<u> </u>	<u>\$1,800 00</u>
Paid Commissioners of Sinking Funds..	\$1,800 00	
	<u> </u>	<u>\$1,800 00</u>

Water Loan, Old Debt, Sinking Fund.

TRANSFERS.

From Appropriation for Water Works	\$15,000 00	
Appropriation for City Debt....	9,073 37	
	<u> </u>	<u>\$24,073 36</u>
Paid Commissioners of Sinking Funds..	\$24,073 37	
	<u> </u>	<u>\$24,073 37</u>

FUND FOR REDUCTION OF THE ORDINARY CITY DEBT.

Balance undrawn Jan. 1, 1892.....	\$54,636 04	
	<u>54,636 04</u>	\$54,636 04

RECEIPTS.

From Commonwealth, on account of Corporation Tax of 1891....	3,873 12	
Commonwealth, on account of Corporation Tax of 1892....	55,042 67	
	<u>58,915 79</u>	
		\$113,551 83

EXPENDITURES.

Paid Commonwealth, on account of Corporation Tax of 1891....	\$ 64 38	
Commissioners of Sinking Funds..	58,444 78	
	<u>58,509 16</u>	
Balance undrawn Dec. 31, 1892.....		55,042 67
		\$113,551 83

CARNEY MEDAL FUND.

<p>* Received of James G. Carney Esq., in 1858 and 1859, the amount of two hundred dollars, which is to remain a perpetual debt of the City forever; the interest to be applied in payment for the "Carney Medals" to the departments of the High School annually</p>	<p>\$200 00</p> <hr style="width: 100%;"/>	<p>\$200 00</p> <hr style="width: 100%;"/>
<p>Undrawn Dec. 31, 1892</p>		<p>\$200 00</p> <hr style="width: 100%;"/>

* One hundred dollars was donated Aug. 24, 1858, and accepted by the City Council Sept. 14, 1858, and one hundred dollars additional, July 16, 1859, and accepted July 26, 1859. For the information of the citizens of Lowell, the Auditor respectfully refers them to the "Annual Report of the School Committee" for the year 1859, where all the correspondence between the donor and the recipient may be found,

SINKING FUNDS.

The value of the several Sinking Funds
Jan. 1, 1893, which apply to the
reduction of the Water Debt, as
reported by the Commissioners of
Sinking Funds is as follows:

Water Loan Sinking Fund.....	\$81,123 92	
Water Loan, Old Debt, Sinking Fund..	24,122 52	
Sinking Fund for High Service Water Supply.....	23,035 28	
	<hr/>	\$128,281 72

The value of the several Sinking Funds
Jan. 1, 1893, which apply to the
reduction of the Ordinary City
Debt, as reported by the Com-
missioners of Sinking Funds, is
as follows:

Fund for the payment of the Ordinary City Debt.....	\$153,944 66	
Intercepting Sewer Fund	55,181 67	
City Hall and Memorial Building Sink- ing Fund.....	39,453 05	
High School Sinking Fund.....	6,922 73	
	<hr/>	255,502 11

Total Value of the Sinking Funds Jan. 1, 1893.....	<hr/>	\$383,783 83
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The value of the Hapgood Wright Cen- tennial Trust Fund Jan. 1, 1893...	\$2,028 42	
	<hr/>	\$2,028 42

APPROPRIATIONS FOR 1892.

Schools	\$200,000 00
School-houses.....	25,000 00
Roads and Bridges.....	75,000 00
Paupers	55,000 00
Police	70,000 00
Fire Department.....	80,000 00
Sewers and Drains.....	15,000 00
Commons	8,000 00
Printing and advertising.....	7,000 00
Lighting	55,000 00
Public Buildings.....	10,000 00
Library.....	12,000 00
Health.....	25,000 00
Salaries	20,000 00
State Aid.....	3,000 00
Aid for Indigent Soldiers and Sailors...	4,000 00
Interest.....	90,000 00
City Debt.....	172,400 00
Water Loan Sinking Fund.....	16,000 00
City Hall and Memorial Building Sinking Fund.....	7,500 00
Sinking Fund Loan for 1882.....	2,500 00
Aiken Street Sinking Fund.....	16,000 00
Sinking Fund for High Service Water Supply	1,800 00
Sinking Fund for New Buildings at City Farm.....	7,000 00
Central Bridge Sinking Fund.....	16,000 00
Intercepting Sewer Fund.....	5,000 00
High School Sinking Fund.....	3,000 00
City Cemeteries....	1,000 00
State Tax.....	54,421 79
County Tax.....	55,276 39
National Bank Tax.....	17,616 16
Abatement of Taxes.....	20,992 53
	<hr/>
	1,150,506 87

DUE FROM THE CITY ON ORDINARY CITY DEBT.

December 31, 1892.

Date of Notes.	To Whom Payable.	Amount.	Per Cent.	Interest, When Due.	Interest Due in 1893.	Notes and Installments, When Due.
*1871, March 6,	Bequest of Thomas Nesmith.....	\$25,000 00	6	March 6 and Sept. 6.	\$1,500 00	Perpetual Debt.
1871, Apr. 10,	Bequest of Thomas Nesmith.....	1,000 00	6	April 10 and Oct. 10.	60 00	Perpetual Debt.
1874, Aug. 7,	Lowell Institution for Savings	100,000 00	6½	Feb. 7 and Aug. 7.	6,500 00	1894, Aug. 7.
1874, Nov. 25,	Lowell Five Cent Savings Bank	25,000 00	6½	May 25 and Nov. 25.	1,625 00	1894, Nov. 25.
1878, May 10,	Bequest of Johnathan Tyler	10,000 00	6	May 10 and Nov. 10	600 00	Perpetual Debt.
1882, Oct. 2,	Sundry Persons (bonds)	56,000 00	4	April 2 and Oct. 2.	2,240 00	1903, Oct. 2.
1883, April 2,	Perkins, Dupee & Co. (bonds)	94,000 00	4	April 2 and Oct. 2.	3,760 00	1903, April 2.
1883, May 1,	Perkins, Dupee & Co. (bonds)	7,500 00	4	May 1.	100 00	1893, May 1, \$7,500.
1883, June 20,	Perkins, Dupee & Co. (bonds)	15,000 00	4	June 20.	300 00	1893, June 20, \$15,000.
1883, Dec. 15,	Lowell Institution for Savings	8,500 00	4	June 15 and Dec. 15	340 00	1893, Dec. 15, \$8,500.
1883, Dec. 15,	Lowell Institution for Savings	7,700 00	4	June 15 and Dec. 15	308 00	1893, Dec. 15, \$7,700.
1885, Jan. 15,	Lowell Institution for Savings	9,000 00	4	Jan. 15 and July 15.	300 00	1893, Jan. 15, \$9,000.
1888, Aug. 1,	Lowell Institution for Savings	36,000 00	4	Feb. 1 and Aug. 1.	1,440 00	1893, Aug. 1, \$6,000.
1888, Aug. 7,	Dupee & Sargent.....	30,000 00	4	Feb. 7 and Aug. 7.	1,200 00	1893, Aug. 7, \$5,000.
1888, Dec. 1,	Lowell Institution for Savings	4,000 00	4	June 1 and Dec. 1.	160 00	1893, Dec. 1, \$4,000.
1888, Dec. 21,	F. S. Mosely & Co	32,400 00	4	June 21 and Dec. 21.	1,296 00	1893, Dec. 21, \$5,400.
1889, March 4,	Lowell Institution for Savings ..	28,000 00	4	March 4 and Sept. 4.	1,040 00	1893, March 4, \$4,000.
1889, May 22,	Lowell Institution for Savings	17,500 00	3½	May 22 and Nov. 22.	580 00	1893, May 22, \$2,000.*
1889, June 3,	Lowell Institution for Savings	21,000 00	3½	June 3 and Dec. 3.	706 88	1893, June 3, \$3,000.
1889, Dec. 1,	Blake Bros. & Co. (bonds)	154,000 00	4	June 1 and Dec. 1.	6,160 00	1893, Dec. 1, \$22,000.
1890, July 16,	Lowell Institution for Savings	28,000 00	4	Jan. 16 and July 16.	1,120 00	1893, July 16, \$3,500.
1890, Nov. 29,	Lowell Institution for Savings	36,800 00	4	May 29 and Nov. 29.	1,472 00	1893, Nov. 29, \$4,600.
1890, Oct. 1,	Sundry Persons (bonds)	450,000 00	4	April 1 and Oct. 1.	18,000 00	1920, Oct. 1.
1891, May 16,	Lowell Institution for Savings	90,000 00	4	May 16 and Nov. 16.	3,400 00	1893, May 16, \$10,000.
1891, April 1,	Sundry Persons (bonds)	150,000 00	4	April 1 and Oct. 1.	6,000 00	1921, April 1.
1891, July 6,	Lowell Institution for Savings	54,000 00	4	Jan. 6 and July 6.	2,160 00	1893, July 6, \$6,000.
1891, Sept. 14,	Lowell Institution for Savings	42,300 00	4	March 14 and Sept. 14.	1,692 00	1893, Sept. 14, \$4,700.
1891, Oct. 19,	Central Savings Bank.....	17,100 00	4	April 19 and Oct. 19.	684 00	1893, Oct. 19, \$1,900.
1891, Nov. 28,	Lowell Institution for Savings	49,500 00	4	May 28 and Nov. 28.	1,980 00	1893, Nov. 28, \$5,500.
1892, April 9,	Central Savings Bank.....	50,000 00	4	April 9 and Oct. 9.	1,900 00	1893, April 9, \$5,000.
1892, May 4,	Lowell Institution for Savings	70,000 00	4	May 4 and Nov. 4.	2,800 00	1893, May 4, \$7,000.
1892, June 3,	Central Savings Bank.....	45,000 00	4	June 3 and Dec. 3.	1,710 00	1893, June 3, \$4,500.
1892, June 3,	Lowell Institution for Savings	35,000 00	4	June 3 and Dec. 3.	1,330 00	1893, June 3, \$3,500.
1892, Aug. 31,	Lowell Institution for Savings	70,000 00	4	Feb. 28 and Aug. 31.	2,800 00	1893, Aug. 31, \$7,000.
1892, Nov. 1,	Lowell Institution for Savings	100,000 00	4	May 1 and Nov. 1.	4,000 00	1893, Nov. 1, \$10,000.
	Amount of City Debt (ordinary)	\$1,969,300 00		Int. Ordinary City Debt,	\$81,182 94	
	Amount of Water Loans.....	1,279,000 00		Int. Water Loan,	54,690 00	
	Total Amount of City Debt.....	\$3,248,300 00		Total Int. on City Debt,	\$135,872 94	
	Amount of Sinking Funds	383,783 83				
	Net City Debt.....	\$2,864,516 17				

* Interest on the same (for the poor).

† Interest on the same (High Street Church).

‡ Interest on the same (for the poor).

DUE FROM THE CITY ON WATER LOAN.

December 31, 1892.

Date of notes and Bonds.	To Whom Payable.	Amount.	Per Cent.	Security.	Interest, When Due.	Annual Interest.	Notes and Bonds, When Due.
1873, June 14,	Lowell Institution for Savings -----	\$100,000 00	6.6	City's Note.	June 14,	\$3,300 00	1893, June 14.
1874, Oct. 14,	City Institution for Savings -----	50,000 00	6.5	City's Note.	April 14 and Oct. 14,	3,250 00	1894, Oct. 14.
1874, Nov. 12,	Lowell Institution for Savings -----	100,000 00	6.5	City's Note.	May 12 and Nov. 12,	6,500 00	1894, Nov. 12.
1881, Nov. 1,	Blake Bros. & Co, (15 notes, \$5,000 each) ----	75,000 00	4	City's Notes.	May 1 and Nov. 1,	3,000 00	1911, Nov. 1.
1890, Nov. 1,	Sundry Persons, (bonds) -----	800,000 00	4	Bonds.	May 1 and Nov. 1,	32,000 00	1920, Nov. 1.
*1891, March 9,	Lowell Institution for Savings -----	54,000 00	4	City's Note.	March 9 and Sept. 9,	2,040 00	{ 1893, March 9, \$6,000†
†1892, Dec. 1.	Lowell Institution for Savings -----	100,000 00	4	City's Note.	June 1 and Dec. 1,	4,000 00	{ 1893, Dec. 1, \$10,000 00†
		\$1,279,000 00				\$54,000 00	

* New Pumping Engine.

† Paid by Water Works.

‡ Driven Well Plant

DEBTS DUE THE CITY.

Taxes of 1887.....	\$	218	88
Taxes of 1888... ..		462	55
Taxes of 1889		18,621	76
Taxes of 1890.....		15,383	27
Taxes of 1891.....		48,079	68
Taxes of 1892		156,731	33
Sidewalk Assessments.....		6,839	14
Sewer Assessments.....		5,188	88
Water Rates, Service Pipe, etc.....		23,470	98
State Aid		14,892	00
Aid for Indigent Soldiers and Sailors..		3,069	50
		<hr/>	<hr/>
			\$292,959 97

REAL ESTATE OWNED BY THE CITY.

City Hall and Memorial Building.....	\$450,000 00
City Government Building.....	83,000 00
Huntington and Jackson Halls.....	40,000 00
Market House.....	75,500 00
City Scales.....	750 00
High School-house, on Anne and Kirk Streets.....	173,000 00
Bartlett School house, on Clark Street.....	18,000 00
Butler School-house, on Gorham Street.....	53,000 00
Colburn School-house, on Lawrence Street.....	20,000 00
Edson School house, on Highland Street.....	28,000 00
Franklin School-house, on Branch Street.....	25,000 00
*Green School-house, on Merrimack Street.....	105,000 00
New Moody School-house	80,000 00
Moody School-house, on East Merrimack Street.....	18,000 00
Mann School-house, on Lewis Street.....	25,000 00
Varnum School house, on Myrtle Street.....	40,000 00
Highland School-house, on Pine Street.....	67,000 00
Pawtucket School-house, on Mammoth Road.....	53 000 00
Chelmsford Street School house.....	7 000 00
Oaklands School-house.....	2,000 00
Primary School-house, on Powell Street near Liberty Street.....	8,000 00
Primary School-house, on Powell Street, near Chelms- ford Street.....	4 000 00
Primary School-house, on London Street.....	1,000 00
Primary School-house, on School Street.....	7,500 00
Primary School house, on Pond Street... ..	6 000 00
Primary School-house, on High Street.....	9,000 00
Primary School-house, on Carter Street.....	5,000 00
Primary School house, on Fayette Street.....	3,500 00
Primary School-house, on Cross Street.....	24,000 00
Primary School-house, on Cabot Street.....	23,500 00
Primary School-house, on West Sixth Street.....	7,000 00
<i>Amount carried forward.....</i>	<i>\$1,461,750 00</i>

<i>Amount brought forward.....</i>	\$1,461,750 00
Primary School-house, on River Street	8,000 00
Primary School-house, on Ames Street.....	8,000 00
Primary School-house, on Tenth Street.....	9,000 00
Primary School-house, on Favor Street.....	28,000 00
Primary School-house, on Cottage Street.....	4,500 00
Primary School-house, on Charles Street.....	20,000 00
Training School-house, on Charles Street.	30,000 00
Primary School-house, on Cheever Street.....	4,000 00
Primary School-house, on London Street.....	5,000 00
Primary School-house, on Chapel Street	4,000 00
Primary School-house, on Central Street.....	13,500 00
Primary School-house, on Howard Street	5,000 00
Primary School-house, on Worthen Street.....	25,000 00
Primary School-house, on Lyon Street.....	20,000 00
Primary School-house, on Dover Street.....	13,500 00
Primary School-house, on Common Street	19,000 00
Primary School-house, on Agawam Street.....	9,000 00
Primary School-house, on Grand Street.....	5,500 00
Primary School-house, on Varnum Avenue.....	850 00
Primary School-house, on Kirk Street.....	18,000 00
Primary School-house, at Middlesex Village.....	2,500 00
Primary School-house, on Weed Street	10,500 00
Hose Carriage-house, on Fletcher Street.....	18,000 00
Hose Carriage-house, on Central Street	11,000 00
Hose Carriage-house, on Warren Street	11,000 00
Engine-house, on Gorham Street	15,000 00
Engine-house, on Lincoln Street... ..	5,500 00
Engine house and Ward-room, on Branch Street.....	22,000 00
Engine-house and Ward-room, on Fourth Street.....	15,000 00
Engine-house, on Palmer Street.....	76,000 00
Engine-house and Ward-room, on High Street.....	24,000 00
Engine-house, on Westford Street... ..	18,000 00
Chemical Engine-house, on Merrimack Street.....	4,500 00
City Farm and Buildings.....	145,000 00
Land and Buildings on Fletcher Street.....	3,500 00
Land and Buildings on Fletcher, Cross and Lagrange Streets, and Broadway	100,000 00
Public Landing in rear of Market House and Police Stable	9,500 00
Lot of Land on Chelmsford Street.....	5,000 00
Lot of Land on Fletcher and Bowers Streets.....	8,000 00
Lot of Land on First Street.....	190 00
Lot of Land on Middle Street... ..	14,000 00
Lot of Land on Tenth Street.....	5,000 00
<i>Amount carried forward</i>	<u>\$2,234,790 00</u>

<i>Amount brought forward</i>	\$2,234,790 00
North Common.....	112,900 00
Engine-house, on Lawrence Street.....	26,000 00
Engine house, on Mammoth Road	15,000 00
South Common.....	224,800 00
Mount Vernon Park.....	2,000 00
Belvidere Park.....	10,000 00
Wilson Park	1,600 00
Rogers Fort Hill Park.....	75,000 00
	<hr/>
	\$2,702,090 00

WATER WORKS.

The Real Estate and Personal Property belonging to the City, occupied and used by the Water Works, net cost to Jan. 1, 1893.....	<u>\$2,395,712 65</u>
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BURIAL GROUNDS OWNED BY THE CITY.

- No. 1 Burial Ground, on School Street.
 No. 2 Burial Ground, on Gorham Street.
 Edson Cemetery, on Gorham Street.

REAL AND PERSONAL PROPERTY OWNED BY THE CITY.

Real Estate	\$2,702,090 00
Water Works, net cost to Jan. 1, 1893.....	2,395,712 65
Personal Property in care of Superintendent of Schools	23,000 00
Personal Property in care of Superintendent of Streets, belonging to Streets	23,931 73
Personal Property in care of Superintendent of Streets, belonging to Watering Streets.....	7,944 93
Personal Property in care of Superintendent of Streets, belonging to Sewers and Drains.....	6,218 71
Personal Property in care of Superintendent of Streets, belonging to Pawtucket Boulevard.....	221 43
Personal Property in care of City Engineer.....	1,000 00
Personal Property in care of Superintendent of In- stitutions at City Farm.....	30,800 00
Personal Property at Wood Yard.....	3,000 00
Personal Property at City Dispensary.....	2,300 00
Personal Property in care of Secretary of Overseers of the Poor.....	200 00
Personal Property in care of Chief Engineer of Fire Department.....	112,000 00
Personal Property in care of Superintendent of Street Lights.....	21,000 00
Personal Property in care of City Librarian.....	42,000 00
Personal Property in care of Board of Health.....	12,000 00
Personal Property in care of Sealer of Weights and Measures	250 00
Personal Property in care of Superintendent of Public Buildings not mentioned below.....	5,000 00
Personal Property in care of Superintendent of Edson Cemetery.....	960 00
Furniture in Huntington and Jackson Halls.....	2,500 00
Furniture in School Houses.....	15,000 00
Bell on High Street Church.....	500 00
Clock on High Street Church	500 00
Personal Property in care of Chief of Police.....	15,150 00
Personal Property in care of Superintendent of City Scales.....	225 00
Debts due the City.....	292,957 97
Cash in the Treasury.....	312,438 42
<hr/>	
\$6,028,900 84	

COST OF SEWERS LAID IN 1892.

Agawam Street, from the present sewer in Moore Street, northerly a distance of 211 feet.....	\$1,024 14
Bridge Street, from the present sewer in Bridge Street, easterly a distance of 24 feet.....	183 30
Cumberland Road, from the present sewer in Ludlam Street, northerly a distance of 246 feet.....	490 53
Cumberland Road, from the present sewer in Lilley Avenue, southerly a distance of 191.5 feet.....	755 11
Gates Street, from the present sewer in Westford Street, southerly a distance of 571 feet.....	2,068 61
Hutchinson Street, from the terminus of the sewer formerly laid, northerly a distance of 74 feet....	280 46
High Street, from the present sewer in Sherman Street southerly a distance of 488.5 feet.....	804 03
Harvard Street, from the present sewer in Middlesex Street, southerly a distance of 1021.5 feet.....	1,312 90
Lakeview Avenue, from the terminus of the sewer formerly laid, northerly a distance of 415 feet....	444 43
Lincoln Street, from the present sewer in Gorham Street, westerly a distance of 467.5.....	606 29
Lawrence Street, (820.5 feet) (completed) between Agawam Street and Moore Street.....	12,082 95
Maple Street, (unfinished) from the present sewer in Gorham Street, westerly a distance of 750 feet..	12,028 95
Marginal and Foster Streets, from the terminus of the sewer formerly laid, at Stevens Street, westerly and southerly a distance of 1,443 feet.....	18,105 24
Middlesex Street, from the present sewer in Foster Street, westerly a distance of 1,490 feet.....	5,765 28
Middlesex Street, from the present sewer in Foster Street, easterly a distance of 733 feet.....	2,265 26
Moore Street, from the present sewer in Lawrence Street, westerly a distance of 786.5 feet.....	2,365 47
<i>Amount carried forward</i>	<u>\$60,582 95</u>

<i>Amount brought forward.....</i>	<i>\$60,582 95</i>
Moore Street, from the present sewer in Gorham Street, easterly, a distance of 1,611 feet.....	5,774 58
Oakland Street, from the terminus of the sewer formerly laid, southerly a distance of 185 feet.....	324 19
Passage-way, in rear of Dutton Street, from the present sewer in Worthen Street, southerly and westerly a distance of 286 feet.....	532 94
Perry Street, from the present sewer in Rogers Street, northerly a distance of 579 feet.....	1,152 99
Rogers Street, from the terminus of the sewer formerly laid, southerly a distance of 780 feet.....	2,546 29
Stevens Street, from the terminus of the sewer formerly laid, southerly a distance of 147.5 feet...	237 20
South Whipple Street, from the present sewer in Moore Street, northerly a distance of 389.5.....	789 29
Third Avenue, from the terminus of the sewer formerly laid, northerly a distance of 36 feet.....	50 62
Westford Street, from the terminus of the sewer formerly laid, easterly a distance of 270 feet.....	815 65
Total cost of sewers constructed in 1892.....	\$72,806 70
Cost of sewers constructed previous to 1892.....	1,640,275 14
Total cost of construction of sewers to Jan. 1, 1893..	\$1,713,081 84

RENTS OF BUILDINGS OWNED BY THE CITY.

From Commonwealth, Armory.....	\$1,700 00
County of Middlesex, Police Court Rooms....	750 00
Carleton & Hovey, store in City Hall Building,	1,200 00
	<hr/>
	\$3,650 00
	<hr/>

LANDS AND BUILDINGS FOR WHICH THE CITY PAYS RENT.

To Boston & Lowell Railroad Co, for ground rent of Huntington and Jackson Halls... ..	\$ 475 00
Trustees of A. H. Hosford, for rent of rooms for City Library.....	1,200 00
Irvine Block, for rent of rooms for Board of Health, City Library and Milk Inspector....	780 00
Proprietors of Locks and Canals on Merrimack River, for rent of land	331 00
Ayer Home for Young Women and Children, for rent of Reading Rooms.....	900 00
Lowell Institution for Savings, for rent of rooms for City Engineer.....	120 00
	<hr/>
	\$3,806 00
	<hr/>

DAVID CHASE,

Auditor.

**ACCOUNT OF THE CITY TREASURER AND
COLLECTOR OF TAXES FOR THE YEAR 1892.**

LOWELL, MASS., Jan. 2, 1893.

TO THE HONORABLE, THE CITY COUNCIL:

Gentlemen—I have the honor to submit the following report of the Receipts and Expenses of the City of Lowell for the financial year 1892.

Respectfully submitted,

AUSTIN K. CHADWICK,

City Treasurer and Collector of Taxes.

DR. *City of Lowell, in account with Austin K. Chadwick, City*

For cash paid on account of

Schools	\$201,451	57
School-houses	85,278	19
Streets	122,547	15
Reserved Fund	85,045	34
Paupers	86,982	81
Police	101,715	43
Fire Department	134,403	12
Sewers	89,021	15
Commons	12,109	73
Printing	9,607	75
Lighting	61,725	06
Public Buildings	44,554	06
Library	19,908	48
Health	43,371	86
Water Works	187,907	62
Pawtucket Boulevard	24,403	66
Paving	29,012	78
Salaries	29,665	00
Interest	96,534	43
State Aid	15,207	05
State Aid, I. S. and S.	6,194	00
City Debt	848,900	00
Abatement of Taxes	3,363	37
Temporary Loans	400,000	00
City Hall and Memorial Building	146,346	32
National Bank Tax	22,403	20
Sinking Fund for the Reduction of the Ordinary City Debt ..	58,509	16
New Pumping Engine	10,646	90
High School Building	87,462	52
City Cemeteries	7,815	82
Watering Streets	16,793	89
New Buildings at City Farm	21,459	61
Chelmsford Street School	2,563	78
Oakland School	1,900	92
Driven Well Plant	4	80
City Hall and Memorial Bldg. S'k Fnd.	15,290	00
County Tax	55,276	39
State Tax ..	54,421	79
Extension of Palmer Street	61,185	66
High School Sinking Fund	3,000	00
Water Loan Sinking Fund	16,000	00
Loan of 1882 Sinking Fund	2,500	00
Aiken Street Bridge Sinking Fund	16,000	00
New Buildings at City Farm S'k Fund	7,000	00
High Service Sinking Fund	1,800	00
Central Bridge Sinking Fund	16,000	00
Intercepting Sewer Sinking Fund	5,000	00
Water Loan "Old Loan" Sinking Fund.	24,073	37
	<hr/>	
	\$3,395,363	77
Cash Balance Jan. 1, 1893	312,438	42
	<hr/>	
	\$3,707,802	19
	<hr/>	

Treasurer and Collector of Taxes for the Financial year 1892. CR.

By cash received on account of

Schools	\$ 831 19
School-houses	25,047 09
Streets	47,409 85
Reserved Fund	129,014 08
Paupers	30,610 36
Police	32,241 11
Fire Department	42,138 67
Sewers	67,939 43
Commons	532 38
Printing	33 13
Lighting	30 40
Public Buildings	3,932 18
Library	3,503 70
Health	11,239 93
Water Works	205,359 59
Pawtucket Boulevard	25,055 00
Paving	25,077 33
Interest	21,215 21
State Aid	23,439 82
State Aid I. S. and S.	4,099 00
City Debt	676,500 00
Temporary Loans	400,000 00
City Hall and Memorial Building	165,006 72
National Bank Tax	4,880 87
Sinking Fund for the Reduction of the Ordinary City Debt	58,915 79
New Pumping Engine	1,741 36
High School Building	35,006 99
City Cemeteries	6,386 93
Watering Streets	18,261 66
New Buildings at City Farm	35,000 00
Chelmsford Street School	60,000 37
Oakland School	10,000 00
Driven Well Plant	100,000 00
City Hall and Memorial Building Sink- ing Fund	7,790 00
Palmer Street	10,835 90
Taxes of 1888	2 00
Taxes of 1889	114 12
Taxes of 1890	44,827 33
Taxes of 1891	95,324 54
Taxes of 1892	989,739 78
	<hr/>
	\$3,419,083 81
Cash balance Jan. 1, 1892	288,718 33
	<hr/>

\$3,707,802 19

CITY OF LOWELL.

IN BOARD OF ALDERMEN, Jan. 17, 1893.

Read and referred to the Joint Committee on Accounts. .

Sent down for concurrence.

MICHAEL J DOWD, *City Clerk*.

IN COMMON COUNCIL, Jan. 17, 1893.

Read and referred in concurrence.

FRANK J. SIMONDS, *Clerk*.

REPORT OF THE COMMISSIONERS OF SINK- ING FUNDS FOR THE YEAR 1892.

LOWELL, MASS., Jan. 2, 1893.

TO THE HONORABLE, THE CITY COUNCIL, OF THE CITY OF LOWELL:

Gentlemen—The Commissioners of Sinking Funds of the City of Lowell have the honor to submit the following report of the several Sinking Funds of said city, and of the Hapgood Wright Centennial Trust Fund for the year 1892:

Full value of all Sinking Funds, Jan 1, 1893	\$383,734 68	
Full value of all Sinking Funds, Jan. 1, 1892	884,149 57	
Decrease during 1892.....		<u>\$500,414 89</u>
Value of Water Loan Sinking Funds, Jan. 1, 1893.....	\$128,232 57	
Value of Water Loan Sinking Funds, Jan. 1, 1892.....	82,622 11	
Increase during 1892.....		\$45,610 56
Value of all other Sinking Funds, Jan. 1, 1893	\$255,502 11	
Value of all other Sinking Funds, Jan. 1, 1892	801,527 46	
Decrease during 1892.....		<u>546,025 35</u>
Net decrease as above.....		<u>\$500,414 89</u>

Value of Hapgood Wright Centennial Trust Fund, Jan. 1, 1893.....	\$2,028 42	
Value of Hapgood Wright Centennial Trust Fund, Jan. 1, 1892.....	1,950 43	
	<hr/>	
Increase during 1892.....		<u>\$77 99</u>

Four Sinking Funds have been closed during the year, viz. :
 Aiken Street Bridge Sinking Fund.
 New Buildings at City Farm Sinking Fund.
 Loan of 1882, Sinking Fund.
 Central Bridge Sinking Fund.

And one Sinking Fund has been opened, viz. :
 Water Loan (Old Debt) Sinking Fund.

A statement of the receipts, payments, present value, and list of securities of each Sinking Fund follows :

	<i>Securities.</i>	<i>Cash.</i>	<i>Total.</i>
Water Loan Sinking Fund.			
On hand Jan. 1, 1892.....		\$62,349 77	\$62,349 77
Received during 1892.....			
Cash—Annual appropriation.....		16,000 00	
Income on investments.....		1,835 00	
Income on bank deposits.....		939 15	
Securities bought.....	\$62,500 00		
Paid during 1892:	\$62,500 00	\$81,123 92	
Cash—For Securities purchased.....		62,500 00	
On hand Jan. 1, 1893.....	\$62,500 00	\$18,623 92	\$81,123 92
Increase during 1892.....			18,774 15
Securities belonging to this fund:			
1 Town of Everett note, 7 per cent.....	\$26,000 00		
25 Town of Wayland coupon bonds, 5 per cent.....	25,000 00		
3 City of Springfield coupon bonds, 6 per cent.....	3,000 00		
4 City of Lewiston coupon bonds, 5 per cent.....	4,000 00		
2 City of Cambridge coupon bonds, 6 per cent.....	2,000 00		
1 City of Portsmouth coupon bond, 4 per cent.....	1,000 00		
1 City of Portsmouth coupon bond, 4 per cent.....	1,500 00		\$62,500 00
Cash on deposit in First National Bank, Lowell, 3½ per cent.....			18,623 92
Total.....			\$81,123 92
High Service Water Loan Sinking Fund.			
On hand Jan. 1, 1892.....	\$14,500 00	\$5,772 34	\$20,272 34
Received during 1892:			
Cash—Annual appropriation.....		1,800 00	
Carried forward.....	\$14,500 00	\$7,572 34	\$20,272 34

	Securities.	Cash.	Total.
<i>Brought forward</i>	\$14,500 00	\$7,572 34	\$20,272 34
Income on Investments		860 00	
Income on bank deposits		102 94	
Securities purchased	6,000 00		
	\$20,500 00	\$8,535 28	
Paid during 1892 :			
Cash—For Securities purchased		6,000 00	
On hand Jan. 1, 1893	\$20,500 00	\$2,535 28	23,035 28
Increase during 1892			\$2,762 94
Securities belonging to this fund :			
2 Town of Beverly, \$1000 4 per cent. bonds.....	\$2,000 00		
4 City of Providence \$1000 5 per cent. bonds	4,000 00		
8 City of Providence \$1000 5 per cent. bonds	8,000 00		
1 Town of Pawtucket \$500 5 per cent. bonds.....	500 00		
1 City of Cambridge \$1000 5 per cent. bond.....	1,000 00		
1 City of Cambridge \$1000 6 per cent. bond.....	1,000 00		
4 Town of Danvers \$1000 5 per cent. bonds.....	4,000 00		\$20,500 00
Cash deposited in First National Bank, Lowell, 3½ per cent.			2,535 28
Total			\$23,035 28

Water Loan (Old Debt) Sinking Fund.			
On hand Jan. 1, 1892	—	—	—
Received during 1892 :			
Cash—City of Lowell		\$24,073 37	
On hand Jan. 1, 1893.....		\$24,073 37	\$24,073 37
Increase during 1892.....			
Securities belonging to this fund :			\$24,073 37
Cash deposited in First National Bank, Lowell. 3½ per cent.			\$24,073 37

	<i>Securities.</i>	<i>Cash.</i>	<i>Total.</i>
Aiken Street Sinking Fund.			
On hand Jan. 1, 1892	\$134,424 51	\$55,084 91	\$189,509 42
Received during 1892:			
Cash—Annual appropriation.....		16,000 00	
Income on investments		3,330 00	
Income on bank deposits.....		538 06	
For securities sold.....		120,500 00	
Paid during 1892:	\$134,424 51	\$195,452 97	
Cash—City of Lowell and O. C. D. Sinking Fund to settle account.....		195,452 97	
Securities matured, sold and charged off.....	134,424 51		
On hand Jan. 1, 1892			
Decrease during 1892.....			\$189,509 42

New Buildings at City Farm Sinking Fund.			
On hand Jan. 1, 1892	\$23,038 20	\$29,827 22	\$52,865 42
Received during 1892:			
Cash—Annual appropriation.....		7,000 00	
Income on investments		609 00	
Income on bank deposits.....		584 98	
Securities sold or paid.....		21,950 00	
Paid during 1892:	\$23,028 20	\$59,971 20	
Cash—City of Lowell to close Sinking Fund.....		59,971 20	
Securities sold or charged off	23,038 20		
On hand Jan. 1, 1893			
Decrease during 1892.....			\$52,865 42

	<i>Securities.</i>	<i>Cash.</i>	<i>Total.</i>
Loan of 1882 Sinking Fund.			
On hand Jan. 1, 1892	\$20,196 60	\$6,347 70	\$26,544 30
Received during 1892 :			
Cash—Annual appropriation		\$2,500 00	
Income on investments		940 00	
Income on bank deposits		210 44	
Securities sold, or matured and paid		19,000 00	
	\$20,196 60	\$28,998 14	
Paid during 1892 :			
Cash—City of Lowell to close sinking fund		28,998 14	
Securities sold or charged off	20,196 60		
On hand Jan. 1, 1893	—	—	—
Decrease during 1892			\$26,544 30
Central Bridge Sinking Fund.			
On hand Jan. 1, 1892	\$48,500 00	\$52,340 30	\$100,840 30
Received during 1892 :			
Cash—Annual appropriation		16,000 00	
Income from investments		1,040 00	
Income from Bank deposits		1,636 18	
Securities sold, or matured and paid		48,500 00	
	\$48,500 00	\$119,516 48	
Paid during 1892 :			
Cash—to City of Lowell to close sinking fund		119,516 48	
Securities sold or charged off	48,500 00		
On hand Jan. 1, 1893	—	—	—
Decrease during 1892			\$100,840 30

	Securities.	Cash.	Total
City Hall and Memorial Bldg. Sinking Fund.			
On hand Jan. 1, 1892		\$22,994 79	\$22,994 79
Received during 1892			
Cash—Annual appropriation		7,500 00	
Premium and accrued interest on \$100,000 bonds sold		7,790 00	
Income on investments		555 00	
Income on bank deposits		613 26	
Securities matured and paid		1,000 00	
Securities bought	\$20,500 00		
	\$20,500 00	\$40,453 05	
Paid during 1893 :			
Cash—for securities bought		\$20,500 00	
Securities matured and paid	1,000 00		
On hand Jan. 1, 1893	\$19,500 00	\$19,953 05	39,453 05
Increase during 1892			\$16,458 26
Securities belonging to this fund :			
12 City of Portland \$1000 6 per cent. bonds	\$12,000 00		
4 City of Chelsea \$1000 6 per cent. bonds	4,000 00		
3 City of Manchester \$1000 6 per cent. bonds	3,000 00		
1 City of Manchester \$500 6 per cent. bond	500 00		\$19,500 00
Cash—deposited in First National Bank, Lowell $3\frac{1}{2}$ per cent			19,953 05
Total			\$39,453 05
Sinking Fund for the Reduction of Ordinary City Debt.			
On hand Jan. 1, 1892	\$352,050 00	\$5,115 56	\$357,165 56
Received during 1892 :			
Cash—Income on investments		16,798 25	
Carried forward	\$352,050 00	\$21,913 81	\$357,165 56

REPORT OF THE COMMISSIONERS OF SINKING FUNDS.

	Securities.	Cash.	Total.
<i>Brought forward</i>	\$352,050 00	\$21,913 81	\$357,165 56
Income on bank deposits		3,269 07	
National Bank tax		4,708 68	
Corporation tax		58,444 78	
Excess Aiken St. Sinking Fund.....		452 97	
Securities matured and paid.....		113,000 00	
Securities purchased.....	162,450 00		
Paid during 1892:	\$514,500 00	\$201,789 31	
Case—For securities.....\$162,450 00			
City of Lowell, to balance Sinking			
Funds	11,514 18		
City of Lowell as per resolution.....	19,880 47		
		183,844 65	
Securities matured and paid and surrendered to City of			
Lowell	378,500 00		
On hand Jan. 1, 1893.....	\$136,000 00	\$17,944 66	153,944 66
Decrease during 1892			\$203,220 90
Securities belonging to this fund:			
31 City of Lawrence \$1000 6 per cent bonds.....	\$31,000 00		
1 City of Keene \$500 4 per cent. bond.....	500 00		
2 Town of Arlington \$1000 5 per cent. bonds.....	2,000 00		
7 City of Providence \$1000 5 per cent. bonds.....	7,000 00		
3 City of Newton \$1000 5 per cent. bonds.....	3,000 00		
2 City of Portsmouth \$1000 6 per cent. bonds.....	2,000 00		
37 City of Bangor \$1000 6 per cent. bonds.....	37,000 00		
4 City of Bangor \$500 6 per cent. bonds.....	2,000 00		
1 City of Lynn \$1000 6 per cent. bonds.....	1,000 00		
1 State of Rhode Island \$3000 6 per cent. bonds.....	3,000 00		
3 City of Newburyport \$1000 4 per cent. bonds	3,000 00		
41 Town of Pawtucket \$500 5 per cent. bonds.....	20,500 00		
2 City of Springfield \$1000 6 per cent. bonds	2,000 00		
1 City of Somerville \$1000 5 per cent. bond.....	1,000 00		
<i>Carried forward</i>	\$115,000 00		

	<i>Securities.</i>	<i>Cash.</i>	<i>Total.</i>
<i>Brought forward</i>	\$115,000 00		
1 City of Lawrence \$5000 6 per cent. bond	5,000 00		
1 City of Keene \$1000 6 per cent. bond	1,000 00		
2 City of Fall River \$1000 6 per cent. bonds.....	2,000 00		
3 City of Portland \$1000 6 per cent. bonds	3,000 00		
1 City of Cambridge \$1000 6 per cent. bond.....	1,000 00		
2 Town of Wilton \$500 6 per cent. bonds	1,000 00		
1 Town of Bedford \$8,000 7 per cent. note.....	8,000 00		\$136,000 00
Cash deposited in Mechanics Savings Bank, 4 per cent		\$212 70	
Cash deposited in First National Bank, Lowell, 3½ per cent		17,731 96	17,944 66
Total			\$153,944 66

Intercepting Sewer Sinking Fund.			
On hand Jan. 1, 1892	\$37,700 00	\$10,145 10	\$47,845 10
Received during 1892:			
Cash—Annual appropriation.....		5,000 00	
Income on investments.....		2,127 00	
Income on bank deposits.....		209 57	
Securities matured and paid.....		4,000 00	
Securities purchased	15,000 00		
Paid during 1892:			
Cash—For securities purchased.....	\$52,700 00	\$21,481 67	
Securities matured and paid	4,000 00	15,000 00	
On hand Jan. 1, 1893.....	\$48,700 00	\$6,481 67	55,181 67
Increase during 1892			\$7,336 57
Securities belonging to this fund:			
4 City of Providence \$10,000 registered 5 per cent. bonds	\$40,000 00		
3 City of Providence \$1000 registered 5 per cent. bonds	\$3,000 00		
Carried forward.....	\$43,000 00		

	<i>Securities.</i>	<i>Cash.</i>	<i>Total.</i>
<i>Brought forward</i>	\$43,000 00		
1 City of Providence \$1000 coupon 5 per cent. bond.....	1,000 00		
1 State of New Hampshire \$500 coupon 6 per cent. bond.....	500 00		
1 City of Dover \$200 coupon 6 per cent. bond.....	200 00		
8 City of Manchester \$500 coupon 6 per cent. bonds.....	4,000 00		
Cash deposited in First National Bank, Lowell, 3½ per cent			\$48,700 00
Total.....			6,481 67
			\$55,181 67

High School Sinking Fund.			
On hand Jan. 1, 1892.....		\$3,762 57	\$3,762 57
Received during 1892:			
Cash—Annual appropriation.....		3,000 00	
Income on investments.....		85 00	
Income on bank deposits.....		75 16	
Securities purchased.....	3,500 00		
Paid during 1892:	\$3,500 00	\$6,922 73	
Cash—Securities purchased		3,500 00	
On hand Jan. 1, 1893.....	\$3,500 00	\$3,422 73	6,922 73
Increase during 1892			\$3,160 16
Securities belonging to this fund			
1 City of Keene \$500 4 per cent. bond.....	\$500 00		
1 City of Salem \$1000 5 per cent. bond	1,000 00		
1 City of Lynn \$1000 5 per cent. bond.....	1,000 00		
1 Town of Arlington \$1000 5 per cent. bond	1,000 00		
Cash deposited in First National Bank, Lowell 3½ per cent			\$3,500 00
Total.....			3,422 73
			\$6,922 73

	<i>Securities.</i>	<i>Cash.</i>	<i>Total.</i>
Hapgood Wright Centennial Trust Fund.			
On hand Jan. 1 1892 -----		\$1,950 43	\$1,950 43
Received during 1892:			
Cash—Interest on bank deposits -----		77 99	
On hand Jan. 1, 1893 -----		\$2,028 42	2,028 42
Increase during 1892			77 99
Securities belonging to this fund:			
Cash deposited in Lowell Institution for Savings-----		\$423 46	
Cash deposited in City Institution for Savings-----		1,604 96	
			\$2,028 42

Respectfully submitted,

JAMES C. ABBOTT,	} Commissioners of Sinking Funds
HENRY G. CUSHING,	
PETER F. CONATON,	

of the City of Lowell
for the year 1892.

IN BOARD OF ALDERMEN, January 17, 1893.

Read and referred to the Joint Committee on Accounts.

Sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, January 17, 1893.

Read and referred in concurrence.

FRANK J. SIMONDS, *Clerk*.

**REPORT OF JOINT STANDING COMMITTEE
ON ACCOUNTS, ON THE ACCOUNT OF
THE TREASURER, ETC.**

TO THE CITY COUNCIL :

The Joint Committee on Accounts of the City of Lowell, to whom was referred the Accounts of the City Treasurer and Commissioners of Sinking Funds, for the financial year ending December 31, 1892, have attended to the business committed to them, and report :

The Joint Standing Committee on Accounts of the City Council of the City of Lowell, for the year 1893, have made, with the assistance of Mr. Fred. C. Sanborn, expert accountant, of Lowell, a thorough examination of the accounts of the City Treasurer and of the Commissioners of Sinking Funds, for the financial year ending December 31, 1892, and find them to be correct. We herewith submit the report of Mr. Sanborn, the accountant, all of which is respectfully submitted.

GEO. C. EVANS,
JOHN J. O'CONNOR,
GEORGE R. CHOATE,

*Joint Standing Committee on Accounts of the City Council of the
City of Lowell, for the year 1893.*

IN BOARD OF ALDERMEN, April 18, 1893.

Read and accepted ; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, April 25, 1893.

Read and accepted in concurrence.

FRANK J. SIMONDS, *Clerk*.

REPORT OF ACCOUNTANT.

LOWELL, MASS., March 16, 1893.

TO GEO. C. EVANS, ESQ., Chairman of Committee on Accounts
for the City of Lowell:

Dear Sir—Acting under instructions of your committee, I have examined the books of the City Treasurer and the Commissioners of Sinking Funds, and beg leave to submit my report.

I have carefully examined the Cash-Book, and find the receipts from Water and Taxes to be the same as on the books of original entry. All other receipts seem to also be correctly entered and the proper credit given to each department. On the credit side of the book the payments are correctly entered and properly vouched. The footings and balances are correct. I have carefully footed the Pay-rolls, Draft-book, and the Desk-books for water and taxes and find them correct and properly transferred to the Cash-book. Proper vouchers were shown for each and every item on the Draft-book. I have examined the Journal and Ledger and find the postings are correct, the footings exact and the balances true and as per the Treasurer's report.

In company with Messrs Cushing, Conaton and Chadwick, I inspected the various securities belonging to the Sinking Funds and find them as per the report. On the books belonging to these funds I have found their earnings properly accounted for. The reports of the Treasurer and of the Sinking Fund Commissioners have been passed to the City Clerk.

I desire to express through your committee my thanks to Mr. Chadwick and to the members of his staff for their kind assistance and courtesy.

Statement of balances is attached.

I have the honor to be, dear sir,

Your very obedient servant,

FRED. SANBORN.

STATEMENT OF BALANCES.

Cash on hand Jan. 1, 1892 as per report	\$ 288,718 38
Total receipts for 1892	3,419,083 81
	<hr/>
	\$3,707,802 19
Total expenditures for 1892	3,395,363 77
	<hr/>
Balance on hand Jan. 1, 1893.....	\$312,438 42

CASH BALANCE,

Taken at the close of business, Feb. 28, 1893.

Balance with Lowell Trust Co., as per pass-book		\$204,750 60
Cash in Safe and Drawer as per actual count	\$4,558 00	
Said to have been received after 12 M. and charged to March acct.	356 32	
	<hr/>	
	\$4,201 68	
State Aid and I. S. and S. Fund, put up but not paid.....	1,648 00	
	<hr/>	
		5,849 68
		<hr/>
		\$210,600 28
Outstanding checks as per Treasur- er's List.....		11,420 53
		<hr/>
		\$199,179 75
		<hr/>
Cash balance Jan. 1, 1893	\$312,438 42	
Cash receipts Jan. 1893	37,152 05	
Cash receipts Feb. 1893.....	39,862 23	
	<hr/>	
		\$389,452 70
Cash payments Jan. 1893.....	\$38,781 24	
Cash payments Feb. 1893.....	151,491 71	
	<hr/>	
		190,272 95
		<hr/>
		\$199,179 75
		<hr/>
Total value of Sinking Funds.....		\$383,734 68
Total value of Hapgood Wright Centennial Trust Fund.....		\$2,028 42

FRED. SANBORN.

IN BOARD OF ALDERMEN, April 18, 1893.

Read and accepted.

Sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, April 25, 1893.

Read and accepted in concurrence.

FRANK J. SIMONDS, *Clerk*.

INDEX.

Abatement of Taxes.....	225
Account of the City Treasurer and Collector of Taxes....	247
Aid for Indigent Soldiers and Sailors.....	216
Appropriations.....	234
Auditor's Report.....	5
Carney Medal Fund.....	232
Chelmsford Street School-house.....	31
City Cemeteries.....	68
City Debt.....	217
City Hall and Memorial Building.....	181
Commons.....	164
Cost of Sewers Laid in 1892.....	243
County Tax.	222
Debts Due the City.....	238
Driven Well Plant.....	209
Due from the City on Ordinary City Debt.....	235
Due from the City on Water Loan.....	137
Fire Department.....	136
Fund for the Reduction of the Ordinary City Debt.....	231
Hapgood Wright Centennial Trust Fund.....	260
Health.....	190
High School Building.....	32
Interest.....	219
Lands and Buildings for which the City Pays Rent.....	245
Library	185
Lighting.....	170
National Bank Tax.....	221
New Buildings at City Farm.....	128
New Pumping Engine.....	207

Oaklands School-house.....	30
Palmer Street.....	58
Palmer Street, Extension of.....	59
Paupers.....	95
Paving.....	60
Pawtucket Boulevard.....	62
Police.....	130
Printing and Advertising.....	168
Public Buildings.....	173
Real and Personal Property Owned by the City.....	242
Real Estate Owned by the City.....	239
Rents of Buildings Owned by the City.....	245
Report of Accountant.....	265
Report of the Commissioners of Sinking Funds.....	251
Report of Joint Standing Committee on Accounts.....	263
Reserved Fund.....	71
Roads and Bridges.....	34
Salaries.....	210
Schools.....	15
School-houses.....	24
Sewers and Drains.....	146
Sinking Funds.....	228
Sinking Funds.....	233
State Aid.....	212 213
State Tax.....	222
Taxes.....	223
Temporary Loans.....	227
Watering Streets.....	65
Water Works.....	196

TWENTIETH
ANNUAL REPORT

OF THE

LOWELL WATER BOARD,

TO THE

CITY COUNCIL OF THE CITY OF LOWELL, MASS.,

AND THE

REPORTS OF THE SUPERINTENDENT OF WATER WORKS AND
OF THE CITY ENGINEER TO THE WATER
BOARD FOR 1892.



LOWELL, MASS.:
THE LOWELL SUN JOB PRINT.
1893.

CITY OF LOWELL.

IN COMMON COUNCIL Jan. 10, 1893.

Received and ordered on file; sent up for concurrence.

FRANK J. SIMONDS, *Clerk.*

IN BOARD OF ALDERMEN Jan. 17, 1893.

Received and ordered on file, in concurrence.

MICHAEL J. DOWD, *City Clerk.*

WATER DEPARTMENT, 1892.

WATER BOARD:

MILES F. BRENNAN, *Prest.*, term expires second Monday in March, 1895.

ARTHUR F. SALMON, term expires second Monday in March, 1893.

EDWARD W. THOMAS, (Resigned February 3rd, 1893).

RICHARD B. ALLEN, term expires second Monday in March, 1896.

JAMES W. CASSIDY, term expires first Monday in January, 1893.
(Or upon election of successors.)

CHARLES L. KNAPP, *Secretary and Clerk.*

ROBERT J. THOMAS, *Superintendent.*

GEORGE BOWERS, *City Engineer.*

DANIEL HART, JR., *Engineer.*

WALTER P. WILEY, *Meters.*

THOMAS McLoughlin, *Asst. Engineer.*

D. B. H. BARTLETT, *Foreman shop.*

FRANK LAPOINT, *Reservoir.*

A. F. COGER, *Services.*

THOMAS F. DOYLE, *Foreman.*

THOS. ROGERS, "

WM. JOYCE, *Asst. Foreman.*

OFFICE:

LEONARD T. FARRIS, *Service Clerk.*

MARY G. SAWYER, *Book-keeper.*

Inspectors.

JOHN J. BANCROFT,

GEORGE E. WORTHEN,

ROBERT GARDNER, JR.

MICHAEL H. MCCUE.

REPORT OF THE WATER BOARD.

OFFICE OF THE LOWELL WATER BOARD,

LOWELL, Jan, 9, 1893.

To the Honorable the City Council of the City of Lowell:

The twentieth annual report of the Water Department we now submit. The annual report of Robert J. Thomas, Superintendent of Water Works, of George Bowers, City Engineer, have been laid before the Water Board and approved, and the same are submitted herewith to your honorable body as part of the twentieth report.

A full statement of all moneys charged by the Water Works Department during the year 1892, of the collections of same, the disbursements in detail, in all a complete financial showing, is included also in this report.

The Water Board of 1892, Miles F. Brennan, Arthur F. Salmon, Edward W. Thomas, Richard B. Allen, and Alderman James W. Cassidy, met for organization March 14th, when Miles F. Brennan was re-elected President of the Board. At the same meeting Robert J. Thomas was elected Superintendent of Water Works.

Later in the year the Board completed its organization by the re-election of Charles L. Knapp as Secretary and Clerk.

During the year, the Board have found that it was for the interest of the city and for the good of the Works, that a change be made in the Chief Engineer of Pumping. It was voted unanimously, April 21st, that it was "desirable that a change be made at the Pumping Station as regards the Chief Engineer." Presumably no more need be said, further than that the Board has never regretted its action. Daniel Hart, Jr., a Lowell mechanic, has since April 22d held the responsible position of Chief Engineer. His assistant is Thomas McLoughlin. Both are faithful men. No other changes in the Department have been made. We believe that never was the Department so efficient as today. We have a force of experienced men, equal to any emergency and capable of undertaking and carrying to successful completion the heaviest and most difficult work. A well equipped machine shop enables us to make our own repairs. The Inspection is more searching and thorough than formerly, while the charges and collections we believe are as impartially executed as is the business of any corporation in the community. This is all said without egotism, though with a pardonable pride, and said that faithful men and faithful labor in a City Department shall receive its just recognition.

You will note the continual and steady increase in volume of business as indicated by total charges, an

increase of \$9,107.08 over the year 1891, a total of \$225,370.08 of which \$209,980.44 are water charges, and which exceed the water charges of 1891 by \$7,521.81. The total expenditures including \$50,230.00 interest payments were \$202,907.62. The net receipts credited Water Works were \$205,359.59. The balance at the beginning of the year was \$26,558.53. The balance to credit of Water Works January 1, 1893 is \$29,010 50.

The extraordinary expenditures of the year have been the expense of laying a thirty inch force main pipe from the Pumping station on West Sixth Street to the Beacon Street Reservoir. The Engineer's estimated cost of this work was \$25,000. The work is completed. The cost was \$22,973.53. Details of the work, a very trying and dangerous undertaking, will be found in the Superintendent's report.

What in effect is an expenditure and the cause of a very considerable reduction of income to Water Works' funds, is the ten per cent. discount which all water bills of the present year, dating from April 1st, carry, under a vote passed by the City Council. This discount has in nine months' time given consumers a benefit of \$16,764.90. The reduction was most welcome to property owners, and there is no reason why it may not be continued through 1893.

Another unusual expenditure, under authority of the City Council, was the transferring of \$15,000 to a Sinking Fund to be known as the "Water Loan, Old Debt Sinking Fund," to be applied to the

extinguishment of the last note of the Old Water Loan, maturing November 12, 1894; by the terms of resolution the Water Works will make the same payment in 1893, and an amount nearly as great in 1894, all to the end as explained, and the remedy of oversight in a former year.

Another was the first payment of principal on the \$60,000, ten year loan, dated 1891, and which provided for the New High Duty Worthington Engine, boilers, and necessary preparations and changes.

Still another extraordinary expense was the cost of experimental work in an endeavor to ascertain if a ground water supply for Lowell was a possibility. In this work and research in various ways there has been expended during the year \$8,564.19. This work has been done under the direct charge of George Bowers, city engineer. We have on another occasion placed ourselves upon record as appreciating the faithfulness and value of the City Engineer's labors in this direction. As you know, the outcome of the experimental work alluded to, and following recommendation of the Water Board to the City Council of 1892, was the authorization of a \$100,000 loan, the same to be paid from Water Works receipts, to be expended in the effort to obtain from driven tube wells, located near the City Farm, a supply of pure water. While this work is experimental, and the construction so far as possible temporary, if our hopes are

realized, the work may assume a permanent character before completion, but communication to the City Council upon this subject is of so recent date, it will not be necessary for us to review the plan of work. Sufficient be it to say at this time, that the work is already in hand, and will be pushed with every effort of the Department, so that results favorable or otherwise will be known to you before the conclusion of the present cold season.

The New 'High Duty Worthington is giving full satisfaction. We cannot let the opportunity pass without taking occasion to express in behalf of our selves, representing the City's interests, a sense of appreciation of the manner in which the house of Henry R. Worthington, of New York City, executed its contract. When we state that the builder did more than agreed or called upon by contract to do, we say all. The transaction was satisfactory throughout, and results thus far are most satisfying.

As you know, at the Duty trial test, the engine performed more than the builders' guarantee, also you may know that under the terms of contract the builder was to maintain in good order and repair, at his own cost, for one year; during which time the engine must deliver the regular supply of water to the reservoir. Thus far no call has been made upon the builder, and, as said, the engine continues to give excellent satisfaction. Deductions

may be drawn from actual running data, to be found in Engineer's report.

Following the High Duty Engine assuming regular duty, early opportunity was taken for a thorough overhauling of the Morris engine. As perhaps you know, this engine has a remarkable record, and has been called upon to do an enormous labor. The engine was examined by George H. Barrus, of Boston, and subsequently by Henry G. Morris, of Philadelphia, and builder of the engine. Both these experts advised that the engine be put out of commission and repaired, both believing that the condition of the engine would warrant the expense of repairs. Mr. Edward K. Hill, of Worcester, then came to Lowell to examine the engine, with a view of suggesting repairs. Mr. Hill's examination was very thorough, and proved that the Morris engine was indeed in a bad way. Mr. Hill, representing the Wheelock Engine Company, of Worcester, the Corliss Engine Company, of Providence, and the Blake Steam Pump Works, of Boston, were asked to submit propositions embodying plan of repairs. Only the Wheelock Company would undertake the work and guarantee results. The Wheelock Company submitted two propositions. One was a proposition of purely repairs, save as indicated by Mr. Hill's report wherein it is said: "The conclusion of my examination is, in general, that the contemplated repair is justified except in the point of the decay of bottom of low pressure cylinder,

which is in question whether it is not beyond the safe repair point."

A second proposition made was to substitute new cylinders for the old ones, in fact to furnish a complete steam end connected with the old parallel motion, connected to old condenser and air pump ready for operation. This the Wheelock Engine Company offered to do for the sum of \$8,140.00.

This proposition was accepted by the Board, and contract signed. It is specified that as soon as practicable, after the new work is completed, the engine shall be subjected to a trial test for capacity and duty. The guarantee is a consumption of dry steam per horse power per hour, of not to exceed fourteen pounds; with a boiler pressure of 150 lbs., or more, and pump doing its usual work; or a water duty of 116,000.000 foot pounds on a consumption of 1,000,000 heat units.

This work is now being delivered in Lowell, and will be set up at once. The rebuilt engine will require high pressure boilers, and these same are now nearly completed. They replace three old boilers that have gone beyond the safety limit, which with the boilers placed last year makes an entire renewal of the boiler plant.

With all in position we anticipate that we shall have beside the New 10,000,000 High Duty, practically a new 5,000,000 gallon High Duty, the transformed Morris, capable of as economical work as the best of modern pumping machinery. These with the

other machinery make our pumping plant very complete.

These and like renewals and enlargements must come with any public or private works, after twenty years of service, during which period a population has more than doubled. We in authority to-day must anticipate or attempt to anticipate the needs of another twenty years. If in our building we shall equal the results accomplished by our predecessors, then are we content. But the task is not an easy one.

The attention of the City Council of 1893 is called to the fact that important recommendations effecting the rates charged for water and embodying certain needed modifications of the schedule, are now on file and have been for several years, awaiting action by the City Council. These recommended changes are alike important to the city's interest and to property owners, being in the line of effort to make the system of charges more equitable. We shall be pleased to communicate further upon the subject, if your honorable body desires information more than already possessed.

The matter of adopting a scale of prices for metered water, making a lower rate for larger consumers is at the present time under consideration. The proposition is looked upon with favor by the Water Board, although the benefits that will follow or the encouragement that will be given to new industries contemplating a location with us, is largely theoretical. The water rates of Lowell as they stand

to-day will discourage no intelligent manufacturer from taking a location here. In our city so much other than city water is accessible for manufacturing uses, the number of "large consumers" is comparatively small. Still, if the principal is the right one, and the water business of the city will admit the cut in price, it without doubt should be made.

We cannot close this report without duly acknowledging the valuable co-operation extended us during the year by ex-mayor, George W. Fifield, and the two branches of the city government.

MILES F. BRENNAN,
ARTHUR F. SALMON,
E. W. THOMAS,
RICHARD B. ALLEN,
JAMES W. CASSIDY.

LOWELL WATER WORKS OFFICE,
LOWELL, MASS., Jan. 1, 1893.

Lowell Water Board:

GENTLEMEN,—I have the honor to submit a financial statement of the business done by the Lowell Water Works for the year ending December 31st, 1892, the same showing charges, collections, and expenditures for the period named. The Statement is arranged in tables and comprehends the financial details of every branch of the Department work, all of which is respectfully submitted.

CHARLES L. KNAPP,
Clerk Lowell Water Board.

TABLE 2. TOTAL OUTGO 1892.

	Pay Rolls and Salaries.	General Supplies.	Interest Payments.	Refunds and Vacancies.	Driven Well ex- periments.	Recharged and Collected.	Pumping Station Supplies.	New Force Main material.	Reservoir Supplies.	Stable Expense.	General Expense.	Engine tests and engineer- ing.	Transfers and pay- ments of principal.	Totals.
January.....	\$3,522 45	\$4,260 52		\$ 13 00	\$ 25	\$ 170 14	\$ 118 98			\$ 93 42	\$ 71 26	\$ 60 95		\$ 8,310 97
February.....	2,163 75	1,348 02	\$ 200 00	4 00	1 50	31 00	86 14	\$ 7 60		28 69	340 62	1,013 56	\$6,000 00	11,224 88
March.....	2,071 55	4,784 90	1,200 00		1 00	86	69 34			137 78	160 32	122 80		8,548 55
April.....	3,785 88	6,570 26	2,385 00	17 70		14 00	223 05	4,516 77	\$ 13 24	329 22	216 59	75 00		18,146 71
May	3,838 49	5,135 24	18,810 00	916 15	192 07	5 60	5,383 04	2,153 11	7 00	173 00	353 29			36,966 99
June.....	4,711 25	6,738 42	4,780 00	16 76	2 75	72 75	118 48	6,089 08		111 39	134 06			22,774 94
July.....	5,402 25	2,437 74		133 41	849 72	126 58	146 98	2,177 99	65 00	92 86	114 30			11,546 83
August.....	5,088 70	620 56		45 10	1,482 53	15 10	96 61	471 41		221 81	50 18			8,092 02
September.....	5,075 56	544 61	1,080 00	27 50	2,028 39	194 12	644 34	576 42	120 00	299 79	79 31			10,670 01
October.....	4,767 24	4,545 14	1,885 00	105 45	1,411 83	107 81	130 44	26 47	242 50	80 65	124 63			13,427 19
November.....	3,317 48	3,750 90	17,950 00	45 73	1,355 6	302 78	35 58	51 17	256 96	30 70	103 23		15,000 00	42,203 21
December.....	3,086 41	4,236 72	1,940 00	70 71	792 46	21 43	71 46	431 87		20 19	59 56	264 50		10,995 31
Totals.....	34,673 01	\$44,973 03	\$50,230 00	\$1,395 51	\$8,118 18	\$1,062 20	\$7,124 44	\$16,504 89	\$704 70	\$1,619 50	\$1,807 35	\$1,536 81	\$21,000 00	\$202,907 62

TABLE 3. SUBDIVISION CASH PAID FOR LABOR.

	Office and Inspectors.	New Meters.	Meter Repairs.	Extension and Construction work.	General Maintenance.	New Force Main.	Re-charged.	Pumping	Reservoir.	New Services.	Relaid Services.	Wells.	Morris Engine Repairs.	Totals.
January	\$ 863 72		\$ 121 50	\$ 302 79	\$ 944 80		\$ 13 17	\$ 738 36	\$ 68 94	\$ 161 32	\$ 130 69	\$ 10 50		\$ 2,355 79
February.....	621 90	\$ 10 37	112 43	54 08	\$81 76		22 12	474 08	45 92	32 52	41 89			1,997 07
March.....	652 52		81 12	70 08	523 51	\$ 4 00		455 95	45 92	39 28	32 52			1,904 89
April.....	784 25	98 74	61 00	406 83	1,086 10	54 32	29 75	571 53	61 40	21 60	251 70			3,619 22
May.....	583 40	79 99	4 05	862 92	880 15	18 87	146 27	457 45	48 62	243 72	209 07		\$ 101 30	3,671 81
June.....	588 08	58 62	120 00	944 58	1,550 45	208 31	46 38	456 83	45 92	235 54	245 62	2 25	42 00	4,544 59
July.....	748 45	45 99	118 50	371 93	1,057 56	1,569 30	25 90	563 97	57 40	330 65	273 72	44 12	28 10	5,235 59
August.....	592 76	103 99	101 74	46 23	616 07	2,375 10		445 95	45 92	199 42	170 47	75 37	149 00	4,022 02
September.....	592 76	66 99	98 24	433 65	607 39	2,044 78	19 55	476 58	45 92	241 67	192 72	81 00	7 65	4,908 90
October.....	740 95	96 75	103 00	1,296 94	988 07	70 53	2 50	590 72	57 40	278 95	248 62	126 15		4,600 58
November.....	592 76	65 00	91 12	488 65	711 96	64 31	227 82	466 33	45 02	146 54	162 89	87 50		3,150 80
December.....	658 76	79 31	61 06	516 63	581 48	59 12	102 62	470 83	45 92	175 38	119 52	19 12		2,919 75
Totals.....	10,020 31	\$705 75	\$1,109 76	\$5,825 31	\$10,129 30	\$6,468 64	\$636 08	\$6,168 58	\$615 20	\$2,298 59	\$2.07	\$446 01	\$328 05	\$44,831 01

TABLE 4. SUB-DIVISION CHARGES OTHER THAN RATE AND METERED WATER.

	Meters Sold.	Line Charges.	Shut-off Fines.	Flushing Sewers.	New Services In- cluding Material and Labor.	Relaid Services In- cluding Material and Labor.	Material and Labor.	Recharged, Forfeits Freight, Etc.
January.....	\$ 206 00	\$ 6 90	\$ 2 00	\$ 16 00	\$131 55	\$ 11 45	\$ 108 00	.....
February.....	234 00	43 66	.....	32 00	9 75	9 55	328 81	\$ 8 50
March.....	.....	.....	.....	.....	.....	.....	.....	.....
April.....	739 00	41 22	.....	.....	189 87	211 02	106 13	15 86
May.....	821 00	40 44	4 00	4 00	270 65	244 09	155 39	.....
June.....	709 00	14 64	6 00	18 00	508 83	357 13	777 72	.....
July.....	359 80	218 05	2 00	12 00	364 42	137 16	443 93	.....
August.....	530 60	55 32	.....	16 00	246 17	205 26	185 88	.....
September.....	341 00	33 42	.....	16 00	441 72	84 58	478 21	.....
October.....	885 40	33 54	2 00	8 00	315 84	327 60	125 09	.....
November.....	343 00	115 32	.....	16 00	198 66	203 67	209 13	1,000 00
December.....	90 00	47 58	44 00	4 00	204 20	132 39	1,382 63	.....
Totals.....	\$5,258 80	\$650 09	\$60 00	\$142 00	\$2,881 66	\$1,923 90	\$4,300 92	\$1,024 36

TABLE 5. VERIFICATION OF FOREGOING BY 1892 WATER WORKS ACCOUNT AS PER CITY AUDITOR.

Balance undrawn January 1, 1892.	\$ 26,558 53	
	<hr/>	\$26,558 53
Received into the Treasury on account of		
Water Works :—		
From sundry persons 1888 account,	\$ 3 50	
“ “ “ 1889 “	11 25	
“ “ “ 1890 “	165 83	
“ “ “ 1891 “	26,641 64	
“ “ “ 1892 “	178,537 37	
	<hr/>	\$205,359 59
		<hr/>
		231,918 12
Total expenditures in 1892,		202,907 62
		<hr/>
Balance undrawn January 1, 1893,		29,010 50

TABLE 6.

Statement of Construction and Maintenance.—Lowell Water Works, 1892.

MAINTENANCE.		CONSTRUCTION.	
Paid for Labor;		Paid for Labor:	
Meter Work,	\$ 1,533 36	Extension, Hydrants, Blow-	
Office and Inspectors,	8,020 31	offs, etc.,	\$ 5,825 31
Reservoir,	615 20	New Force Main,	6,468 64
Pumping Station,	6,168 58	City's Portion of New Ser-	
Wells (Experimental),	446 01	vice Work,	1,667 34
Morris Engine Repairs,	328 05		
General Maintenance,	10,129 30		
Salaries Prest. and Supt.,	2,000 00		
City's Portion Relaid Services,	1,508 43		
Paid for Material:		Paid for Material:	
Wells (Experimental),	8,118 18	Extensions, Hydrants, Blow-	
Pumping Station Supplies,	7,124 44	offs, etc.,	13,096 72
Reservoir Supplies,	704 70	New Force Main,	16,504 89
Stable Expense,	1,619 50	Meters set at City Expense,	594 00
General Expense,	1,807 35	City's Portion New Service	
Engine Tests and Engineering,	1,536 81	Material, estimated	2,100 28
City's Portion Relaid Services		To complete New Buildings,	948 93
estimated.	1,779 52		
General Maintenance,	12,250 13		
	<hr/>		<hr/>
	\$65,689 87		\$47,206 11
Total Maintenance		\$ 65,689 87	
Interest,		50,230 00	
Maintenance with Interest,		\$115,919 87	

TABLE 7.

Financial Statement.—Lowell Water Works, 1892.

Statement showing application of Interest as paid by City Treasurer on account of Water Works.

Water Loan Bonds :

Coupons No. 2, Nov. 1891 , 53 coupons	\$ 1,060 00
“ “ 3, May, 1892, 785 “	15,700 00
“ “ 4, Nov. 1892, 757 “	15,140 00
High Service loan bonds, 75,000 “	3,000 00

Notes :

Lowell Inst. for ¹ Savings 6 months Int.	\$100,000	\$3,300 00
“ “ “ “ 1 year “	100,000	6,500 00
* “ “ “ “ 1 “ “	60,000	2,280 00
City “ “ “ 1 “ “	50,000	3,250 00
		<hr/>
		\$50,230 00

*Six months interest on \$60,000 and six months interest on \$54,000. \$6,000 part principal paid in March.

Water Works Expenditures 1892.

Adams, Chas. E.,	\$ 4 63
Allen, Otis & Son,	4 00
Ame & Co.,	13 50
American Bolt Company,	116 64
American Express Company,	12 00
Andrews, Wm. D. & Brother,	5,860 87
Apsley Rubber Company,	50
Atwood, William P.,	10 00
Averill, O. E.,	110 51
Baker Telephone Ind. & Tablet Co.,	10 50
Barker, H. R. Mfg. Co.,	548 77
Bartlett & Dow,	436 12
Barrus, George H.	990 00
Bacheller, Dumas & Co.,	172 20
Bacon & Company,	13 19
Bancroft, K. H. & Company,	3 80
Battles, F. F., Mrs.,	8 66
Bennett & Conlan,	797 00
Bennett & Co., J. W.,	108 06
Bennett, F. W.,	1 20
Billings, Abbie, Estate,	13 00
Bolton, T. M. & Co.,	52 95
Boston & Maine R. R. Co.,	851 67
Boutwell Brothers,	52 99
Bowers, George, City Engineer,	17 25
Boston & Lowell Express,	1 35
Box A. & Co.,	3 60
Bryant, E. P.,	35 50
Brooks, A. L. & Co.,	214 44
Brennan, Miles F., President,	256 40
Brothers, H. C.,	2 70
Burnham & Davis,	114 38
Builders Iron Foundry,	562 16
Burke, John H. & Co.,	13
Burnham & Page,	6 00
Carey, W. W.,	18 44
<i>Amount carried forward,</i>	<hr/> \$11,425 11

<i>Amount brought forward,</i>	\$11,425 11
Carter, T. J. & Co.,	15 00
Carney, James,	4 50
Callahan & Sanborn,	33 33
Carleton & Hovey,	21 20
Cahill Brothers,	32 60
Campbell & Hanscom,	8 50
Carberry, William H.,	9 25
Casey, James,	49 83
Calnin, James,	5 65
Chapman Valve Mfg. Co.,	2,381 13
Church, H. C. & Son,	427 78
Cheney, F. W.,	2 13
Champion Flue Scraper Co.,	3 75
Cheney, C. J. Jr.,	9 97
City of Lowell :	
Appropriated Roads & Bridges,	1,019 55
City Debt,	6,000 00
Public Buildings,	913 48
New Pumping Engine,	1,741 36
Watering Streets,	5 22
App. Fire Dept.,	6 00
Citizen Newspaper Company,	92 50
Clark, Jeremiah,	11 14
Clements, Robert J.,	11 05
Clough, Warren H.,	4 05
Coburn, C. B. & Co.,	482 28
Coleman, John B.,	15 00
Costello & Co., T.,	9,327 80
Connors Brothers,	106 87
Commercial Union Telegraph Co.,	15 62
Corcoran, Patrick,	317 60
Conant, J. E. & Co.,	2 50
Cross, John,	75
Dalton-Ingersoll Company,	637 35
Donovan, J. E.,	6 00
Donovan & Company,	31 83
Doherty, F. J ,	59 90
Doyle, Thomas,	27 00
<i>Amount carried forward,</i>	<hr/> \$35,264 58

<i>Amount brought forward,</i>	\$35,264 58
Dow, Charles F.,	199 43
Doherty Brothers,	95 32
Duren, E.,	8 00
Dudley, George W.,	1 00
Dunlap, Harry,	15 00
Dunning, James R.,	710 38
Dyer, John,	4 00
Dyer, Joseph S.,	2 70
Early, Taft & Co.,	5 75
Eddy Valve Company,	2,266 07
Ellingwood, Edward,	8 40
Engineering News Publishing Company,	9 20
Engineering Record,	8 40
Estes, Emma F. K.,	12 57
Farrell & Conaton,	1,096 94
Fay Brothers & Hosford,	103 66
Farrington, Wm. P.,	20 78
Fels, August,	50 00
Fire & Water,	3 00
First National Bank,	4 05
Foye, W. P.,	240 12
Gates, Josiah & Sons,	40 28
Gage, Daniel,	213 20
Glover, William B.,	2 55
Goodyear Gossamer Co.,	10 50
Gookin, M. F.,	8 75
Griffin, S. P. Supt.,	16 61
Gregoire & Madden,	4 50
Harmon, Albert N.,	19 95
Hathaway, E. F.,	9 55
Hanson, C. H. & Co.,	114 75
Harrington Brothers,	66 75
Hamblett, George,	1 80
Hatch, Charles F. & Co.,	1 00
Harrington, Cornelius,	6 75
Hamilton, Mary H.,	2 48
Hewes & Gordon,	2 28
Hersey Mfg. Co.,	110 00
<i>Amount carried forward,</i>	————— \$40,761 05

<i>Amount brought forward,</i>	\$40,761 05
Hebert, Lillian K.,	4 35
Hibbert & Smith,	2 45
Hill, George F.,	50
Holmes, Mark Jr. & Sons,	3 84
Howe Bros. & Co.,	11 78
Howe Lumber Company,	583 74
Holyoke Hydrant & Iron Works,	51 00
Horne, D. W. & Son,	5,822 96
Hunt, Patrick H.,	1 00
Jewett, Harriet E.,	11 25
Jones, S. H.,	32 59
Johnson, Elmira S.,	12 75
Johnson, W. A., M. D.,	4 00
Killpartrick, Wm. R.,	6 73
Kittredge, A. L. & Co.,	66 94
Knapp, Charles L., Clerk,	586 98
Knowles, Scale Works,	8 75
Lawrence, Alvin,	3 75
Lapoint, Frank,	80 60
Lawler, Thomas H.,	85
Lawrence Mfg. Co.,	1 80
Langley, William,	17 10
Lanard, P.,	8 40
Leonard, Frank,	20 00
Livingston, Wm. E.,	441 91
Libby, Fred. V.,	11 65
Lowell Electric Light Company,	376 00
“ Felting Mills,	7 11
“ Gas Light Company,	185 05
“ Base Ball Association,	15 24
“ Machine Shop,	8 13
“ & Suburban Street R.R. Co.,	210 00
“ Plating Company,	40
“ Sun,	59 35
Lovejoy-Paul Express Company,	4 25
Ludlow Valve Manufacturing Company,	621 00
Maker & Merrill,	1 25
Mack, W. A. & Co.,	35
<i>Amount carried forward,</i>	<hr/> \$50,046 85

<i>Amount brought forward,</i>	\$50,046 85
Marion, J. S.,	15 00
McDermott, James,	2 70
McDonald, T. J.,	84 25
McGregor, Fred. G.,	175 00
McGovern, Patrick,	27 00
McMorrow, Michael, Estate,	18 00
McOsker, H. C.,	8 41
Merrill, J. & Son,	16 10
Merrimack Iron Works,	47 88
Michigan Brass and Iron Works,	28 50
Miller Brothers,	1 00
Morse & Sparks,	35 05
Morris, Henry G., Philadelphia,	75 00
Moffatt, William B.,	6 03
Murphy & Bingham,	47 00
Murphy, J. S.,	16 25
National Meter Company,	5,041 20
New England Tel. & Tel. Co.,	447 41
New England Water Pipe Company,	225 38
New York & Boston Desp. Exp. Co.,	10 85
Nichols, A. F.,	199 14
Nichols, Wm. & Co.,	12 40
O'Dowd, H. J.,	185 00
O'Sullivan, Brothers,	46 00
Page, D. L. Company,	26 50
Page Belting Company,	193 88
Partridge, William,	352 00
Peet Valve Company,	30 00
Perrin, Seamans & Company,	232 86
Pennichuck Water Works,	98 17
Pendergast, A. L.,	5 06
Peck, L. A. C.,	7 13
Peabody, Otis,	36 00
Pittsburg Testing Laboratory,	469 55
Porter, Dr. O. P.,	30 00
Pratt, Amasa & Co.,	25 12
Props. Locks & Canals,	372 83
Priest, Page & Co.,	150 00
<i>Amount carried forward,</i>	<hr/> \$58,846 50

<i>Amount brought forward,</i>	\$58,846 50
Puffer, J. F. & Son.,	2 75
Radford Pipe & Foundry Company,	18,401 46
Reynolds, T. J.,	103 85
Reliance Gauge Company,	22 50
Rice & Company,	169 48
Richards, John,	50
Richmond, Mrs. C. B.,	2 70
Richardson's Hotel,	12 50
Rowe, Patrick,	14 85
Rollins, F. E.,	18 97
Roberts, William,	1 00
Robertson & Co.,	1 50
Rogers, Elizabeth,	3 60
Sanborn-Perris Map Co.,	50 00
St. Peter's Church,	54 96
Scannell & Wholey,	2,811 32
Severence, J. L.,	3 95
Shaw, Frank E.,	51 27
Shattuck, Horace B.,	9 72
Sherman, E. S. & Co.,	62 58
Sheehan, Patrick,	5 25
Shaler, N. S.,	250 00
Simpson & Rowland,	3 90
Simpson, Thos. W.,	4 72
Smith, E. A. & A. T.,	375 15
Smith, S. C. & G. H.,	1 85
Smith, Jesse, Heirs of	43 80
Smith, Anthony P.,	547 00
Small, James,	9 15
Sparks, J. H., Dr.,	122 75
Spalding, W. H. & Co.,	72 20
Stanley, G. E.,	41 25
Stickney, Frederick W.,	20 00
Star Brass Mfg. Company,	73 00
Stowell, F. E.,	6 00
Stanton & Thurston,	2 25
Staples Brothers,	664 62
Stiles, A. G. & Co.,	137 96
<i>Amount carried forward,</i>	————— \$83,026 81

<i>Amount brought forward.</i>	\$83.026 81
Stark, John F.,	12 00
Suttle, Emma,	4 50
Swan, Mrs. Joshua, Estate,	7 07
Swan, A. G.,	5 00
Taisey, Sarah E.,	13 40
Talbot, Dyewood & Chemical Co.,	10 20
Taylor Brothers,	27 10
Thompson Hardware Company,	156 54
Tremont & Suffolk Mills,	9 56
Union Brass Foundry,	9 09
Van Nostrand Co., D.,	15 00
Vox Populi Press,	152 30
Walworth Mfg. Co.,	819 41
Walker & Vaughn,	8 50
Washburn, C. D.,	1 99
Ward, John H.,	2 00
Western Union Telegraph Co.,	15 04
West, R. M.,	9 47
Welch, James,	111 00
Welch, Redmond,	14 25
Whittier Machine Co.,	1,022 48
Whittet & McDonald.	1 98
Wilder, H. H. & Co.,	14 25
Wilson, E. A., Agent,	51 19
Winkley, Dresser & Co.,	4 85
Wilson, Franklin T.,	6 00
Wood, Edw. N. & Co.,	83 79
Wood, R. D. & Co.,	4,238 37
Worcester, E. C.,	1 00
Worthington, H. R.,	78 12
	————— \$89,932 26

SUNDRY BILLS PAID ON ACCOUNT OF NEW ENGINE FROM NEW
ENGINE LOAN.

American Bolt Company,	\$ 7 20
Barrus, George H.,	113 00
Bennett & Conlan,	550 41
Bennett, J. W. & Co.,	53 99
Boston & Maine R. R. Co.,	31 50
City, Appropriations Public Buildings,	629 94
Rice & Co.,	30 80
Worthington, Henry R.,	9,230 06
	<hr/> \$10,646 90

SUNDRY BILLS PAID ON ACCOUNT DRIVEN WELLS FROM APPROPRIA-
TIONS DRIVEN WELL PLANT.

Engineering News Publishing Company,	\$4 80
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The following Table will Show the Expenditures and Receipts of the Works from 1873 to 1893 exclusive of Interest on the Water Debt and Expense of New Bond Plate in 1890.

	Expenditures.	Receipts.	Expenditures in excess of receipts.	Receipts in excess of Expenditures.
1873.....	\$188,376 59	\$57,739 48	\$130,637 11	
1874.....	128,105 63	80,625 65	47,479 98	
1875.....	170,095 78	94,908 14	75,187 64	
1876.....	115,012 24	98,815 54	16,196 70	
1877.....	53,988 72	100,826 63	.....	\$46,837 91
1878.....	49,900 15	104,142 87	.....	54,242 72
1879.....	42,157 82	110,185 34	.....	68,027 52
1880.....	45,031 59	123,740 49	.....	78,708 90
1881.....	121,601 27	128,053 97	.....	6,452 70
1882.....	64,525 92	140,397 96	.....	75,872 04
1883.....	65,673 23	152,582 99	.....	86,909 76
1884.....	64,982 71	154,437 55	.....	89,454 84
1885.....	64,030 24	157,956 79	.....	93,926 55
1886.....	51,808 52	168,757 53	.....	116,949 01
1887.....	62,236 05	178,234 29	.....	115,998 24
1888.....	75,234 73	183,127 37	.....	107,892 64
1889.....	80,554 68	189,247 66	.....	108,692 98
1890.....	78,073 46	193,963 80	.....	115,890 34
1891.....	125,980 56	205,997 20	.....	80,016 64
1892.....	152,677 62	*205,359 59	.....	52,681 97

*City Council voted a 10 per cent. discount on all water bills from April 1st. 1892 to April 1st, 1893.

CHARGES FOR WATER BY MONTHS FROM COMMENCEMENT TO DEC. 31, 1882.

MONTHS.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
January . . .	.	\$ 363 94	\$ 418 86	\$ 150 45	\$ 126 51	\$ 169 14	\$ 282 44	\$ 233 73	\$ 182 58
February . . .	.	35 53	235 43	238 85	86 84	144 38	238 19	349 08	146 40
March . . .	\$ 6,124 94	50,200 10	65,417 68	82,249 51	89,177 52	82,225 43	80,663 69	80,567 44	89,210 88
April . . .	785 89	1,739 50	935 20	265 34	584 11	1,970 12	9,242 84	6,478 39	540 20
May . . .	2,928 16	3,274 09	2,147 96	874 47	1,819 65	1,121 43	2,751 35	1,476 15	879 61
June . . .	5,818 78	2,865 86	2,887 43	4,400 91	2,389 52	3,903 69	6,126 86	808 08	12,574 12
July . . .	4,833 52	1,889 03	1,926 31	582 68	3,147 78	1,261 24	1,213 13	11,457 84	273 00
August . . .	2,728 30	498 50	449 86	771 87	799 88	677 01	563 35	459 17	514 46
September . .	2,827 07	3,245 06	865 90	495 97	3,493 90	4,998 07	6,584 86	8,108 23	10,088 19
October . . .	9,729 05	872 10	2,947 93	4,893 44	543 79	663 80	454 29	338 51	309 22
November . . .	761 21	634 03	573 35	1,445 65	518 72	1,220 27	1,405 80	620 56	873 16
December . . .	1,571 72	3,689 79	3,955 59	3,246 39	4,040 71	4,522 75	5,794 77	7,851 52	9,593 32
Totals . . .	\$39,168 64	\$69,307 39	\$82,861 60	\$99,674 93	\$98,178 93	\$102,877 32	\$115,261 20	\$118,808 70	\$125,975 27
Less Abatement to date.	. . .	1,872 83	640 06	8,185 88	2,502 65	4,343 13	9,590 05	1,702 13	3,706 88
Net amounts	\$39,168 64	\$67,434 56	\$82,221 54	\$91,489 05	\$95,676 28	\$98,534 19	\$105,671 15	\$117,106 58	\$122,268 39

CHARGES FOR WATER BY MONTHS, FROM COMMENCEMENT TO DECEMBER 31, 1892. Continued.

MONTHS.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
January.....	\$ 233 37	\$ 271 52	\$ 472 76	\$ 702 05	\$ 410 21	\$ 427 66	\$ 454 33	\$ 420 32	\$ 720 57	\$ 573 53	\$ 702 01
February.....	139 22	136 06	347 06	352 90	439 68	439 98	343 06	495 71	404 09	637 53	945 07
March.....	90,856 37	94,956 65	98,662 13	102,961 30	104,537 77	111,281 68	110,812 26	114,110 39	122,505 39	122,162 39	120,954 09
April.....	403 64	263 10	351 73	439 64	1,355 01	773 67	536 02	1,219 74	2,063 77	1,374 42	2,932 52
May.....	1,191 41	984 84	1,495 90	1,062 34	1,760 48	2,057 80	1,750 52	2,618 47	2,886 65	3,085 40	3,052 49
June.....	16,401 62	17,757 44	18,709 27	21,203 61	23,768 43	23,017 09	26,090 68	25,322 78	23,829 83	30,993 24	34,067 19
July.....	959 80	1,059 37	899 21	1,053 36	1,434 99	2,383 37	1,781 40	1,328 39	1,280 10	1,483 44	1,938 59
August.....	634 40	902 76	984 17	828 40	1,173 44	927 65	1,072 41	1,273 06	1,359 20	1,494 60	1,118 10
September.....	10,004 30	12,467 32	12,939 04	13,152 37	16,105 05	18,307 55	16,773 25	16,288 39	20,813 65	20,075 97	21,531 01
October.....	552 27	941 81	738 12	697 87	783 29	1,108 16	1,414 52	1,107 60	1,357 71	939 54	1,026 80
November.....	378 97	1,615 65	693 41	477 10	686 02	683 55	937 19	874 11	1,008 28	979 58	951 06
December.....	10,848 08	12,512 70	12,544 55	12,617 45	12,825 41	15,927 35	14,476 76	15,096 53	15,387 52	18,058 99	20,761 51
Totals.....	\$433,503 45	\$443,869 22	\$448,028 85	\$455,848 98	\$465,279 78	\$477,425 51	\$476,442 40	\$480,155 49	\$493,616 76	\$502,458 63	\$509,980 44
Less abatements to date.	2,490 50	3,094 15	4,314 79	3,946 34	2,991 18	2,367 70	2,794 87	15,414 91	4,909 39	4,606 41	6,215 07
Net amounts.	\$431,012 95	\$440,775 07	\$444,614 06	\$451,902 64	\$462,288 60	\$475,057 81	\$473,647 53	\$474,740 58	\$488,707 37	\$497,852 22	\$503,765 37

* A reduction of \$6,084.00 is accountable, owing to reduction of annual charges for fire hydrants.

† Abatements represent errors in making charges, clerical errors, abatements voted by Water Board, etc. A large item is that of abated rates as charged in annual-account, and abated on account of meters set during the year.

REPORT OF THE SUPERINTENDENT.

LOWELL, JAN. 8th, 1893.

To the Lowell Water Board:

GENTLEMEN,—In compliance with the City ordinances I hereby respectfully submit the following as the Annual Report of the Superintendent of the Lowell Water Works, for the year of 1892.

FILTER GALLERY.

On assuming the Superintendency of the Water Works I found it was the practice to open the gate on the River Inlet Pipe to its full width, with the result that it not only filled the "Inlet Chamber", but also flowed back into the Gallery and Filter Inlet, practically filling them and depriving the City of the benefit of the better water, supposed to be supplied from those two sources. This custom has been changed and through the year care has been taken not to open the River Inlet gate more than was actually necessary to supply the pumps, taken with the water from the Gallery and Filter Inlet. The Gallery has been examined twice during the year and found to be in good condition.

FILTER INLET.

The top of the bed of the Inlet as well as the side walls and the river bank in front, have been cleaned five times during the year. It was found very dirty each time. About one half an inch of sand was removed at these cleanings, requiring the services of eight men one day. This cleaning would have been done more frequently during the year, but that work on the reservoir bank in connection with the Force Main work, prevented the filling of the reservoir sufficiently full to allow the stopping of the pumps, it requiring twelve hours at least to dry the basin, before the work at cleaning could be done.

The water was drawn off and an attempt made to clean it Thursday, Dec. 29th, but owing to the thickness of the ice (6 inches) it was found impracticable. During the very dry season of the past summer the river end of the pipe which supplies the filter Inlet was entirely out of the water. This of course was when the water in the Merrimack was at an unusually low stage and only for a day or two. This fact suggests that it might be advisable another year to have this pipe extended further into the river.

The sand removed from the bed of the Filter Inlet was saved and afterwards used by the department in street paving work.

CONDUIT.

The 30-inch Blow Off at Beaver Brook was opened several times during the year and the conduit thereby thoroughly flushed. The stone wall at the outlet of the Bodwell Gate House overflow, which had almost entirely collapsed, was rebuilt in a substantial manner, and surmounted by a granite coping, so that it should last for years. In the fence fronting the Bodwell Gate House a large gate was made, so that a team can be driven over the line of the Conduit to Beaver Brook.

PUMPING STATION.

The new High Duty Worthington Engine has done practically all the pumping since it was tested in the spring, the Low Duty Worthington having made only three short runs of a few days at a time, once while a test was being made of the yield of the Filter Gallery and Inlet, and later while the new boilers were being inspected, and still again when repairs were being made on the fire boxes of the new boilers. In accordance with a vote of the Board the steam end of the Morris Engine was taken down and the Low Pressure steam cylinder, the base of High Pressure steam cylinder, and the pistons of both, all of which, together with other minor parts, were shipped to Wheelock Engine Co., Worcester, Mass., to be used in the reconstruction of the engine. The pump wells have been cleaned several times during the year, and a new sluice gate has been set on the well of the new

Worthington Pump. The stone work on the West Sixth and Jewett Streets side of engine room have been repointed, and new stone steps placed in the bulk-head leading to the basement of the engine room. The grounds have been regraded, grassed, etc.

The new boilers for the rebuilt Morris Engine are now finished and ready to be put in place in the boiler room, and during the last week in order to make room for them the two old boilers which were placed in 1881, were taken out and transferred to the site of the new pumping plant on the City Farm land.

FORCE MAINS.

The work [on the old force main this year consisted of putting a T connection between it and the new 30-inch main and setting a 24-inch gate on it beyond this T. Having occasion to use the blow-off on this main at the corner of Sixth and Read Streets, and finding that the sewer connection with blow-off well, had been cut off for some reason, a new 6-inch connection was made with catch basin and a 6-inch gate set on it to prevent overflow from the Catch Basin backing into the well.

Work on the New Force Main which should have begun in April, was as you are aware delayed, owing to the nonarrival of the heavy pipe, specials, Y's &c., so that it was July 11th when ground was broken for this important work and September 6th

when the last joint was made. The amount of pipe and specials laid on this line was as follows: 2,522 feet 30-inch pipe, one 30-inch gate, one 30-inch x 30-inch Y, one 30-inch x 12-inch T, one 30-inch x 6-inch T, and seven 30-inch curves, making a total length of 2,579 feet. Besides the foregoing which was on the main line exclusively there were two 24-inch gates, one 24-inch x 24-inch Y, one 30-inch to 24-inch reducer, and 22 feet of 24-inch pipe, used on the old force main in making the connection between the new and old line. Also one 12-inch gate, one 12x12-inch T, and 37 feet of 12-inch pipe used in connecting new force main with the 12-inch main on West Sixth Street, this latter connection being for the purpose of pumping direct to the City if occasion requires.

The grade of the following street mains was also changed to make way for the New Force Main, viz: Hampshire Street 6-inch lowered, Bridge Street 12 and 8-inch raised, Myrtle Street 6-inch, raised, Beach Street 6-inch, raised, and Freemont Street 6-inch, raised.

The blow-off for the New Force Main, is located about 50 feet west of the old one on West Sixth Street but discharges into the same well. The pipe and specials used on this latter work was one 6-inch gate, one 6-inch 1-4 turn, one 6-inch T, one 6-inch S piece, and 50 feet of 6-inch pipe. As a matter of course, considerable surplus dirt was left after backfilling the Force Main trench,

this, or the greater part of it, was carted to West Sixth Street, beyond West Street, where it was used for extra covering on the conduit line, and also for filling, grading and otherwise improving the street. For this work the Water Works Department should receive credit from the Department of Roads and Bridges. In a few instances property owners near the line of the trench, were allowed to take what dirt they desired, while a considerable quantity was carted on the reservoir grounds and afterwards used there for grading.

The most difficult as well as dangerous part of the work, on the New Force Main, the part that called for the most pains-taking care and attention, was the connection at the Reservoir. It had been supposed that when the Reservoir was built an extra line of 30-inch pipe had been laid through the bank of the reservoir, so that it would be necessary only to find this pipe and make connection without disturbing the bank. Instead of that being the case however, it was found upon investigation that only 9 feet of the 30-inch pipe had been so laid, and only 3 feet of this was outside the wall of the gate chamber. As a consequence in order to make the connection, a cut was of necessity made through the Reservoir bank to the gate house wall.

In view of the serious nature of this work, steps were taken to prosecute the work night and day. The pumps were stopped and the water in the Reservoir allowed to fall to fourteen feet. As the excavation

progressed, the different grades of filling removed, were saved and preserved in separate piles, and dumped at a distance so that the weight of the material would not prove a pressure on the standing banks. The depth of the cut was 20 feet from the top of the bank near the Reservoir, the first 10 feet in depth was opened 8 feet wide, narrowing to 6 feet in the lower 10 feet. For the purpose of timbering, the trench was divided in two sections, upper and lower. In the upper section common 2-inch plank was used for sheathing, with 8x4 inch stuff used double for stretchers and 8x4 inch and 8x6 inch for braces. The same size lumber was used in the lower section for bracing and lagging, but for sheathing 3-inch match planks was used. Both excavating and timbering, which begun Saturday morning, was kept up constantly until the pipe was connected Tuesday night, when night work was dispensed with.

In laying the pipe wooden piers were made under each pipe and forced down in the mud as far as it could be driven, until it was believed to be resting solidly on the old Force Main which at this point is directly under the line of the New. In addition to this foundation, for 46 feet in length under the pipe, a bed of concrete was laid a foot deep, and brought up to the top of the pipe, a width of 6 feet, while for a distance of about 20 feet from the gate house it was brought up eighteen inches above the top of pipe. As the sheathing was drawn out, the holes were promptly filled with grout. The concrete used

was made of one part cement, two of sand and three of small stones; the cement, used being half Portland and half Hoffman. Each layer of concrete was allowed to set over night. In filling above the concrete, care was taken to select from the material excavated, the best; when dumped it was spread in thin layers, thoroughly puddled and tamped. When the trench was filled in this manner up to a certain point, both sides of the trench were dug down, beginning about ten feet back and sloping in; then the entire width was filled and puddled as before described, to within two feet of the top, when loam was used for filling to the surface, this being also puddled.

In the immediate direction and supervision of this work, Mr. Geo. A. Nelson of the City Engineers' Office rendered most valuable assistance and to him is due a large share of the credit for the successful completion of this difficult job. For some weeks after the bank was finished, the water in the reservoir was not allowed to go above 18 feet; but for the last two months it has been to the usual level a number of times, without any indication of leakage. In fact the bank has not settled to any appreciable extent since the work was done.

A sluice gate made by the Eddy Valve Co., of Waterford, New York, has been placed in the Reservoir Gate Chamber, so as to shut off the water in the chamber from either old or new force mains. This gate will be of good service in case of a break or serious leak in either of the Force

Mains. At the present time all water is pumped into the Reservoir through the New Force Main, and so far, no leaks in the entire work have shown themselves. In connection with this work five brick basins have been built around the several gates in the Pumping Station grounds.

RESERVOIR.

The easterly and part of the southerly side of the Reservoir grounds have been ploughed, manured and sown with grass seed. Also a large plot on the south east corner, almost an acre in extent, which heretofore has been allowed to go to waste, owing to its being too rough and uneven for tillage, has been ploughed, graded and manured and sown with grass seed. At the High Service Reservoir the fence has been repaired.

EXTENSIONS.

Accompanying this report is a schedule, prepared by Mr. W. H. Sullivan of the City Engineers' Office, giving the number of feet of cast iron main pipe laid by the Department during the past year, also the gates and hydrants set, with location. This schedule shows a total of 22,845 feet divided as follows: relaid, 1,318 feet; Low Service extensions, 19,147 feet; High Service extensions, 2,380 feet. A glance at these figures will show that the work of the Department in this direction has been something extraordinary. A comparison with the other years shows that the record exceeds that of any year since 1876, when much of the original main

work was done. By far the longest extension, was that on Middlesex Street, from a point near Wood Street to the Chelmsford Town line, a distance of 2,517 feet.

The relaying of pipe on Western Avenue and Middlesex Street was in response to a demand from Insurance people for better fire protection. The old pipe on Middle Street was 6 and 8-inch, mostly 6-inch, on Western Avenue it was all 6-inch. Both these streets were replaced by 10-inch. Besides the above work the 6-inch pipe on Maple Street from Gorham Street to its terminus was relaid owing to the construction of a sewer in that street, and owing to the same cause 132 feet of old 8-inch and 36 feet of new 8-inch pipe was laid in Lawrence Street to replace pipe taken up.

GATES.

Sixty-four new stop gates have been set on street mains during the year. Several of these gates were set on old mains, where previously, if for any reason the water had to be shut off, a large district would necessarily be without water. Take for example Thorndike Street; between Middlesex Street and Davis' Corner, where if a break should occur the whole street would under the old arrangement be shut off; this condition of affairs was remedied to some extent the past year by setting a 12-inch gate near Highland Street. Fletcher Street was another instance, where if it was necessary to make any repairs on the 12-inch pipe in that street, between Pawtucket Street

and Broadway, the people on the entire line would all of necessity be notified that the water was to be turned off, the gates on the side streets would have to be closed, and if the repairs were to be made where the street was low, all the water in that 12-inch main would have to be pumped out of the trench, making a great deal of unnecessary labor, not to speak of the water wasted, the delay, etc. To meet this condition of affairs on Fletcher Street a new 12-inch gate was placed near Varney Street.

Several other cases of similar nature to those cited might be mentioned as still existing and although some of them have been remedied yet a number more gates could be set with advantage.

HYDRANTS.

During the year past, thirty-eight additional hydrants have been set, all of which were post hydrants. Eleven flush hydrants have been replaced by post hydrants. Two hydrants have been taken out for repairs. Two hydrants have been reset on account of change of street grade. About thirty old wooden hydrant boxes have been replaced with new boxes of kyanized lumber.

BLOW-OFFS.

Following vote of the Water Board, seven new blow-offs have been located as follows: Ford Street near Cabot Street, emptying into sewer man-hole; Suffolk Street, near Market, into the canal; Mt. Vernon Street, near Broadway, into sewer man-

hole ; Chelmsford Street, into sewer, man-hole near Gates Tannery ; Lincoln Street, into River Meadow Brook ; School Street near B. & M. R. R. tracks, into Canal. The Water Board voted to put in three more but owing to the lateness of the season they have not been put in as yet.

The street mains have been blown out four times during the year.

FIRE SERVICES.

An 8-inch pipe was put in off Chelmsford Street to serve the Shaw Stocking Company, supplying two 6-inch Chapman post hydrants. A 6-inch line with two Ludlow post hydrants was laid from Rogers Street to the establishment of White Bros. & Co. A 6-inch fire service was laid into the car-house of the Lowell & Suburban Street Railway Company on Middlesex Street. A 6-inch fire service was also laid to Pilling's Shoe Factory on Shaffer Street. A 6-inch to White Bros. & Co.' factory on Perry Street, and a 4-inch to Odd Fellows Building on Middlesex Street.

LEAKS.

The number of leaks the past year averaged about one a week, which is rather more than the usual number. The great majority of these leaks were in service pipes and were generally caused by settling of back filling in sewer trenches.

No great damage followed any case. The worst leak was on the 20-inch main that crosses under the Canal on Cabot Street. This was in a joint on the Ford Street side of the Canal on a level with the bottom of the Canal, where it was very difficult to work, and could only be reached by working Sundays. The leak was stopped and all the joints in the bottom of the canal were thoroughly calked.

SERVICES.

The number of services laid during the year was 318 making 11,831 feet, which, as will be seen by accompanying tables were mostly lead. Two hundred fifty-three iron services were changed for lead or large-iron. The amount of pipe laid in changing old services for new was 9,203 feet.

NEW SERVICES.

59	$\frac{3}{8}$ -inch lead pipe	2,113 feet.
221	$\frac{3}{4}$ -inch lead pipe	7,875 "
24	1-inch lead pipe	868 "
7	$\frac{3}{4}$ -inch iron lead lined	263 "
	1-inch iron lead lined	97 "
2	1-inch iron	274 "
5	2-inch iron	341 "
<hr/>		
318	Total laid 1892	11,831 "
	Amount previously laid.	327,709 "
	<hr/>	
	Total now laid ,	339,540 "

Or 64 miles 1,620 feet.

Total number services laid.	.	.	.	.	.	.	9,289	"
Total cut off at Main	.	.	.	.	.	.	538	"
Total Reconnected	.	.	.	.	.	.	40	"
Total now in use	.	.	.	.	.	.	8,791	"

NUMBER AND KIND OF SERVICES CHANGED DURING YEAR 1892.

Size of Services Changed for.		1 inch lead.	5-8 in. lead.	3-4 in. lead.	1 1-2 in. iron.	1 inch lead.	1 1-2 in. lead.	3-4 in. lead.	No. of feet.
1	5-8 in. lead.	65							65
7	3-4 in. iron.		208						208
208	3-4 in. iron.			7102	580				7682
35	3-4 in. iron.					1187			1187
1	3-4 in. iron.						11		11
1	1 in. iron.							50	50
253	Total.	65	208	7102	580	1187	11	50	9203

METERS.

By the following tables it will be observed that a larger number of meters were set last year than in any former year and that the use of meters is steadily increasing in Lowell. The same is true throughout the country. During the year a number of Desper meters have been taken out, examination showing them to be so badly worn as not to warrant further repairs, such were replaced by new meters. These condemned meters have been in use a number of years, so that when one is found worn and beyond repair, it is only what is to be expected after long service and a reasonable owner is satisfied that the meter has done good work. The old arrangement of testing meters, which could only test small meters on five cubic feet, and with an inch stream, has been superseded by a modern testing apparatus, by which can be tested any size of meter, with 100 cubic feet of water, on any size stream from a thirty-second of an inch to four inches.

Number of new meters set	221
Number of new meters set to replace those condemned	67
Number of meters taken out to repair clean and test	227
Number of meters repaired on premises.	202
Number of meters running January 1st, 1893	2,300
Number of private meters	55

METERS RUNNING JANUARY 1, 1893.

Size in inches.	5-8 in.	3-4 in.	1 in.	1 1-2 in.	2 in.	3 in.	4 in.	Total.
Desper.....	317	101	42					460
Worthington.....	261	25	47	70	36	9	3	451
Crown.....	458	610	188	1	6	1	2	1,266
Duplex.....	9	12	9					30
Ball & Fitts.....	8	2	1	1				12
Fitts Rotary.....	2	1						3
Frost.....	31	10	3		1			46
Thompson.....	2	7	2					11
Gem.....					5		1	6
Hersey.....	2	10	3					15
Total.....	1090	778	295	73	48	10	6	2,300

PRIVATE METERS RUNNING JANUARY 1, 1893

SIZE IN INCHES.	$\frac{1}{8}$ in.	$\frac{3}{4}$ in.	1 in.	2 in.	Total.
Desper	1	3	1		5
Worthington			1	1	2
Crown	19	17	1		37
Duplex	1				1
Frost	2	1			3
Thompson	4	1			5
Hersey	1				1
Nash	1				1
Total	29	22	3	1	55

MISCELLANEOUS.

The new Smith tapping machine purchased the past year, has done good work, and will without doubt be found to pay for itself in a few months; a contrivance that enables the Department to make a tap of from 2 to 6 inches in any size of main, without the shutting off of water, thereby saving the labor of notifying people, saving the labor of pumping the waste water from the ditch, saving the waste of the water, saving the risk in case of fire, and above all obviating all inconvenience to takers from being deprived of water, must be of great value. A new drinking fountain was placed the last year on Lakeview Avenue, nearly opposite Bachman Street. A four inch fire service was put in the Water Works Stable from Jewett Street with stand pipe and hose pipe attached on each floor. Another fire service of the same size was put in the Machine Shop from Hampshire Street with stand pipe and hose connections similar to stable. The boiler-room was also provided with stand pipe and hose connections, the same being piped from the basement of the Engine-room. This provides ample fire protection for the entire Pumping Station Plant.

The 12-inch main on Central Bridge has given trouble almost every winter since it was laid. It was fitted, when laid, with two expansion joints, but they have not proven sufficient to make up for the contraction, occuring with the change of

temperature from season to season, and the result is, that the pipe draws at nearly every joint, causing them to leak. The past summer an examination found the pipe in a very bad condition; not only were all the joints loose, but at one joint the pipe had entirely pulled out leaving an inch space between the ends. Upon inquiry it was learned that it had been in this condition for about two years, it being thought of not sufficient importance to repair it.

The present year after driving up all the joints and connecting the break by means of a sleeve, it was wound the entire length with two inch felting and boxed. Thus far since the repairs were made, no trouble has been experienced.

All the pipe and specials which were stored at the old yard on Broadway, have been removed, the large pipe and castings going to the new pipe yard off School Street, and the small castings brought to the yard on Hampshire Street.

The sheds at the old Broadway yard, still contain considerable material belonging to the Department, there being no other place convenient to store them. As the 1891 report of the Superintendent urged, more land should be acquired near the present shop, for storage purposes. As you are aware a yard for the storage of small specials has been made on the open land adjoining the Superintendent's residence and has proved a great convenience, though somewhat of a disfigurement to the Street.

In conclusion I wish to extend to the President and members of the Water Board my sincere thanks for the many acts of kindness during the year and also to the Clerk of the Board for his valuable assistance.

Respectfully submitted,

ROBERT J. THOMAS,

Superintendent.

LOW SERVICE—LIST OF STOP GATES SET DURING YEAR 1892.

STREETS.	LOCATION.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.
Aiken.....	37.2 feet east of west line Aiken on south line Hall street.....	I				
Bowden.....	12 feet south of north line Bowden on west line of Nelson Avenue.....		I			
Bowden.....	12 feet south of north line Bowden and 1 foot west of east line of Gorham street.....		I			
Broadway.....	15 feet south of north line Broadway on west line Rolfe street.....		I			
Broadway.....	on blow-off west of Bridge near Guards Locks, set in 1891, (not reported).....		I			
Carlisle.....	35 feet east of west line Carlisle street and about 105 feet south of Bowden street.....		I			
Chelmsford.....	16.5 east of west line of Chelmsford, 8.3 south of south line Parker street.....					I
Chelmsford.....	on fire service to Shaw Stocking Co's. mill 6 feet east of west line Chelmsford street, 188 feet south of Shaw street.....			I		
Chelmsford.....	check-valve on Shaw Stocking Co's. fire service, 2 feet west of west line Chelmsford street.....			I		
Chelmsford.....	blow-off 19 feet east of west line Chelmsford, 107 feet north of New Fletcher street.....			I		
Corbett.....	30 feet west of east line Gorham and 12 feet north of south line Corbett street.....		I			
D.....	13 feet north of south side D, on east line of Warwick street.....		I			
Decatur.....	7.5 feet west of east line Decatur and 3 feet north of Salem street.....		I			
Fifth Avenue.....	16 feet west of east line Fifth Avenue, 4 feet north of Mt. Grove street.....		I			
Fletcher.....	31.5 feet east of west line Fletcher street on south line Varney street.....					I
Ford.....	15 feet north of south line Ford, 11.5 feet west of Cabot street, on blow-off.....		I			
Gates.....	12 feet west of east line Gates, on north line of Sheldon street.....		I			
Hampshire.....	on fire service to Water Works machine shop.....	I				
Harvard.....	11 feet west of east line Harvard, on north line Princeton street.....			I		
Irving.....	on line Chambers street, set in 1891, not reported until 1892.....		I			
Jewett.....	on fire service to Water Works stable.....	I				
July.....	12 feet west of east line July street, 2 feet north of north side of Methuen street.....		I			
Kidder.....	8 feet south of north line Kidder, on west line of Gorham street.....		I			
Knapp Avenue.....	13 feet north of the south line Knapp Avenue, on west line Rogers street.....			I		

LOW SERVICE—LIST STOP GATES SET DURING YEAR 1892. *Continued.*

STREETS.	LOCATION.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.
Lincoln.....	on blow-off 5.6 feet east of west line Lincoln, 14 feet north of bridge.....		1			
London.....	15 feet north of south line London, on west line West street.....		1			
Madison.....	25 feet south of north line Madison, on east line of Thorndike street.....		1			
Madison.....	12.3 feet south of north line Madison, 3.3 feet west of Gorham street.....		1			
Market.....	blow-off into canal 11 feet south of Market, 17.8 feet east of Suffolk street.....		1			
McAlvin.....	on Lowell cemetery service, 4 feet east of west line of McAlvin, 14 north of south line Knapp Ave....	1				
Middle.....	15 feet south of north line Middle street, on east line of Palmer street.....				1	
Middle.....	on fire service to Parker building, 9.5 feet south of north line Middle street.....	1				
Middlesex.....	11 feet north of south line Middlesex, 7.5 feet west of east line Wood street.....			1		
Middlesex.....	15 feet south of north line Middlesex, 27.5 feet east of hydrant in front of Wills' house.....			1		
Middlesex.....	27.5 feet south of car house, and 5.3 west of south-east corner car house.....		1			
Mt. Vernon.....	on blow-off 18.8 feet east of west line Mt. Vernon, 1 foot north of Broadway.....		1			
Pawtucket.....	on blow-off into Pawtucket canal, 5.3 feet north of east side Pawtucket street, near bridge.....		1			
Perry.....	on fire service to White Bros. & Co's. mill, 7 feet east of west line Perry street.....		1			
Phillips.....	12 feet west of east line Phillips, 3 feet south of Sargent street.....		1			
Pleasant.....	13 feet east of west line Pleasant, 1 foot south of south line Sherman street.....		1			
Pleasant.....	11.6 feet east of west side Pleasant, 5.7 feet south of south line Pond street.....		1			
Rogers.....	14 feet south of north line Rogers, 5.5 feet east of west line southerly extension Perry street.....			1		
Rolfe.....	13 feet west of east line Rolfe, on south line Pawtucket street.....		1			
Royal.....	12 feet west of east line Royal, on north line Sheldon street.....		1			
Sayles.....	9 feet east of west line Sayles, 1 foot south of Middlesex street.....		1			
School.....	on blow-off 3.5 feet west of east line School, 89.5 north of Sawtelle Place.....		1			
Second.....	14.6 feet south of north line Second, on west line Read street.....		1			
Seventh Avenue.....	13.5 feet west of east line Seventh Avenue, on north line Mt. Grove street.....		1			

LOW SERVICE—LIST STOP GATES SET DURING YEAR 1892. *Concluded.*

STREETS.	LOCATION.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.
Shaffer.....	12 feet south of north side Shaffer, 2 feet east of east line Walker.....		I			
Shaffer.....	on fire service to Pillings shoe manufactory.....		I			
Spring Avenue.....	on west line School street.....		I			
Shaffer.....	12 feet east of west line Shaffer, 1 foot north of north line Broadway.....			I		
Thorndike.....	11.9 feet west of east side Thorndike, 108.6 feet south of Highland street.....					I
Tremont.....	23.8 feet west of east line Tremont, 3 feet south of passageway.....		I			
Tucker.....	16.4 feet west of east line Tucker on south line of Hall street.....	I				
Waugh.....	11 feet north of south line Waugh street, on east line Wilder street ..		I			
*Western Avenue.....	20 feet north of south line Western Avenue on west line Fletcher street.....				I	
West Sixth.....	15 feet north of south line West Sixth street on east line Aiken Avenue.....		I			
Whidden.....	27 feet north of south line Moore street, 12 feet west of east line Whidden.....		I			
White Bros.....	on fire service 2 feet south of south line Rogers, 20 feet west of west rail to Boston.....		I			
White Bros.....	on fire service (check valve) 6 feet south of south line of Rogers.....		I			

* Replaced 6-inch.

HIGH SERVICE—LIST OF STOP GATES SET DURING THE YEAR 1892.

STREETS.	LOCATION.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.
Holyrood Avenue.....	14 feet east of west line Holyrood Avenue, 1.5 feet south of south line Hovey.....		I			
Hovey.....	14 feet north of south line Hovey, 1.5 feet east of east line Parkview Avenue.....		I			
Mt. Pleasant.....	14 feet west of east line Mt. Pleasant, 31 feet north of angle in reservoir fence.....		I			

LOW SERVICE.—LIST OF HYDRANTS SET DURING THE YEAR 1892.

STREETS.	LOCATION.
Bowden . . .	Northerly side, 308 feet east of Gorham Street.
Bowden . . .	Northerly side, 630 feet east of Gorham Street.
Broadway . .	Northerly side, 503 feet west of Rolfe Street
Carlisle . . .	Easterly side opposite cemetery.
Carlisle . . .	Easterly side, in front Devine's cottage.
Cheever . . .	Easterly side, 6.7 north of Cabot Street.
*City Farm . .	36 feet south New Boiler House.
City Farm . .	41 feet North Insane Hospital.
Clark	Northerly side, 56 feet west of Bartlett School.
Fifth Avenue .	Easterly side, 263 feet north of Mount Grove Street.
Gates	Easterly side, 7 feet north of Sheldon Street.
Harvard . . .	Easterly side, 3 feet south of Nicollet Street.
Humphrey . .	Easterly side on south line Eighteenth Street.
July	Easterly side opposite Twelfth Street.
Maple	Southerly side, 248 feet west of Gorham Street.
Middlesex . .	Southerly side, 563 feet west of Wood Street.
Middlesex . .	Northerly side, 1094 feet west of Wood Street.
Middlesex . .	Northerly side opposite Wills' house.
Middlesex . .	Northerly side, 20 feet east of Town line.
Middlesex . .	Northerly side, opposite car house.
Middlesex . .	Northerly side, west of car house.
Midland . . .	Northerly side, 507 feet west of Blodgett Street.
Oakland . . .	Easterly side, opposite Walden Street.
Olive	Southerly side, 395 feet west from Gorham Street.
Pawtucket . .	Southerly side, 297 feet east of Rolfe Street.
Pawtucket . .	Southerly side, 5 feet east of Rolfe Street.
Pleasant . . .	Westerly side, 135 feet north of Sherman.

*Changed.

LOW SERVICE.—LIST HYDRANTS SET DURING YEAR 1892.—*Continued.*

STREETS.	LOCATION.
Royal. . . .	Easterly side, 32 feet north of Sheldon.
Saunders. . . .	Westerly side, 28 feet south of Payne.
Shaffer	Easterly side, 12 feet south of north side Shaffer.
Spring Avenue.	Northerly side, 443 feet west of School Street.
Tremont. . . .	Easterly side, south of Tremont mall.
Tremont. . . .	Easterly side, north of Tremont mall.
Ware	Westerly side, 111 feet north of angle in street.
Western Ave.	Southerly side, just west of Dennis' Machine Shop.
White Bros. . .	Fire service, 380 feet south of Rogers St., west of L. & A. R. R.
White Bros. . .	Fire service, 510 feet south of Rogers St., west of L. & A. R. R.

HIGH SERVICE.—LIST OF HYDRANTS SET DURING THE YEAR 1892.

STREETS.	LOCATION.
Holyrood Ave.	Westerly side, 842 feet south of Hovey Street.
Hovey	Southerly side, 4 feet west of Holyrood Avenue.

LOW SERVICE—WATER PIPES LAID IN 1892.

STREETS.	BETWEEN WHAT STREETS.	Length in feet.					Total.
		4-in.	6-in.	8-in.	10-in.	12-in.	
Bellevue.....	Extended southerly.....			61.			61.
Bowden	Easterly from Stormquest.....		139.				139.
Bowden.....	Easterly from Gorham.....		714.				714.
Broadway.....	Westerly from Rolfe.....		775.				775.
Burnside Avenue..	Extended southerly.....		36.				36.
Carlisle.....	Southerly from Gorham.....		1137.				1137.
Chelmsford.....	Fire service to Shaw Hosiery Co. ...			442.5			442.5
Chelmsford.....	Blow-off opposite Short street.....		7.				7.0
City Farm.....	Extension.....		180.3				180.3
Coburn Avenue...	Extended westerly.....		56.				56.0
Corbett.....	Easterly from Gorham.....		641.5				641.5
Corner.....	Extended easterly.....		48.				48.0
D.....	Westerly to Warwick.....		42.				42.0
D.....	Extended easterly.....		115.				115.0
Decatur.....	Northerly from Salem.....		163.				163.0
Fifth Avenue.....	Northerly from Mt. Grove.....		519.				519.0
Ford.....	Blow-off into sewer manhole.....		7.				7.0
Gates.....	Southerly to Sheldon.....		285.				285.0
Hampshire.....	Fire service water-works machine shop ..						30.0
Harrison.....	Extended southerly.....		135.				135.0
Harvard.....	Between Princeton and Troy.....		18.	587.			605.0
Highland Avenue..	Extended southerly.....		72.				72.0
Humphrey.....	Extended northerly.....		515.				515.0
Jenness.....	Extended westerly.....		85.				85.0
Jewett.....	Fire service water works stable.....	34					34.0
July.....	Northerly from Methuen.....		177.				177.
Kidder.....	Westerly to Gorham.....		161.5				161.5
Knapp Avenue...	Bet. Rogers st. and Cemetery line....	24		838.5			862.5
Lamb.....	Extended southerly.....		48.				48.0
Lincoln.....	Blow-off into brook.....		33.				33.0
London.....	Westerly from West street.....		213.				213.
Madison.....	Westerly to Thorndike.....		24.5				24.5
Market.....	Blow-off into Western canal.....		18.				18.0
Marsh.....	Westerly from Phillips.....		42.				42.0
Carried forward.....		88	6406.8	1929.			8,423.8

LOW SERVICE WATER PIPES LAID IN 1892.—*Continued.*

STREETS.	BETWEEN WHAT STREETS.	Length in feet.					Total.
		4-in.	6-in.	8-in.	10-in.	12-in.	
	<i>Brought forward</i>	88.	6406.8	1929.			8423.8
Meadowcroft.....	Extended southerly.....		146.				146.0
*Middle.....	Between Central and Palmer.....			16.	570.		586.0
Middle.....	Fire service to Parker building.....	9.5					9.5
Midland.....	Extended westerly.....		434.				434.0
Middlesex.....	Extended westerly to near town line..			2517.			2517.0
Middlesex.....	Fire service to I. O. O. F. building..	9.					9.0
Middlesex.....	Fire service to L. & S. street railway Co's car house.....		31.				31.0
Mt. Vernon.....	Blow-off into sewer manhole Broad- way		36.				36.0
Nelson Avenue....	Southerly from Bowden street		57.				57.0
Oakland.....	Extended southerly.....		53.				53.0
Pawtucket.....	Extended westerly by Rolfe street....			405.5			405.5
Pawtucket.....	Blow-off into Pawtucket canal.....		46.4	25.5			71.9
Perry.....	Fire service to White Bros. mill		81.				81.0
Phillips.....	Northerly to Sargent.....		51.				51.0
Pleasant.....	Northerly from a point north of Sher- man.....		364.				364.0
Pleasant.....	Southerly from Sherman.....		84.				84.0
Princeton.....	Westerly from Harvard.....			199.			199.0
Rogers.....	Easterly from L. & A. R. R.....			192.			192.0
Rogers.....	Easterly towards Hanks.....			150.			150.0
Rogers.....	Southerly to Knapp Avenue.....				181.7		181.7
Rolfe.....	Northerly to Pawtucket street		453.5				453.5
Royal.....	Southerly to Sheldon street.....		51.				51.0
Sargent.....	Westerly from Phillips.....		182.				182.0
Saunders.....	Extended northerly.....	114.					114.0
Sayles.....	Southerly from Middlesex.....		129.				129.0
School.....	Blow-off into Pawtucket canal.....		61.				61.0
Second.....	Westerly from Read street.....		170.				170.0
Seventh Avenue..	Northerly from Mt. Grove.....		255.				255.0
Shaffer.....	Between Broadway and Walker.....		232.5	388.5			621.0
Shaffer.....	Fire service to Pillings' mill.....		42.				42.0
Sheldon....	Between Gates and Royal.....		265.				265.0
Spring Avenue....	Westerly from School street.....		520.				520.0
Stackpole.....	Westerly from Livermore.....		61.				61.0
	<i>Carried forward</i>	2,205	10,212.2	5,882.5	751.7		17,066.9

LOW SERVICE—WATER PIPES LAID IN 1892.—*Concluded.*

STREETS.	BETWEEN WHAT STREETS.	Length in feet.					Total.
		4-in.	6-in.	8-in.	10-in.	12-in.	
	<i>Brought forward</i>	220.5	10,212.2	5,882.5	751.7		17066.9
Stevens.....	Extended southerly.			115.5			115.5
Stormquest Ave...	Southerly to Bowden street.....		109.7				109.7
Tremont.....	Extended northerly		309.				309.0
Ware.....	Extended southerly.....		141.				141.0
Warwick.....	Southerly from D street.....		164.				164.0
Waugh.....	Easterly from Wilder.....		276.				276.0
West.....	Extended northerly.....		210.				210.0
*Western Ave....	Westerly from Fletcher street.....			9.	1112.		1121.0
West Sixth.....	Easterly from Aiken Avenue.....		124.				124.0
Whidden.....	Southerly from Moore street.....		183.				183.0
White Bros.....	Fire service southerly from Rogers... 3		601.				601.0
Hydrants.....			45.				45.0
	Laid in 1892.....	220.5	12374.6	6007.	1863.7		20465.8
	* Less 6-in. and 8-in taken out Middle street and Western Avenue....						1318.0
	Total.						19147.8

HIGH SERVICE—WATER PIPES LAID IN 1892.

STREETS.	BETWEEN WHAT STREETS.	Length in feet.					Total.
		4-in.	6-in.	8-in.	10-in.	12-in.	
Beacon.....	Extended southerly.....		240.				240.0
Holyrood Avenue.	Southerly from Hovey street.....		864.5				864.5
Hovey.....	Extended easterly to Holyrood Ave ..		383.5				383.5
Mt Pleasant.....	Extended southerly.....		247.				247.0
Parkview Avenue.	Extended northerly.....		280.				280.0
Wentworth Ave...	Extended northerly.....		365.				365.0
	Laid in 1892.....		2380.				2380.0
	High Service laid previous to 1892....						24323.0
	Total High Service to Jan. 1, 1893....						26703.0

Brought forward.....	19147.8
Low Service laid previous to 1892.....	472717.
Total Low Service to January 1, 1893.....	491864.8
Total High Service to January 1, 1893.....	26733.0
Total High and Low Service to January 1, 1893.....	518597.8
Total in miles, 98.21.	

INVENTORY LOWELL WATER WORKS PROPERTY JANUARY 1, 1893.

CAST IRON PIPE AND SPECIALS.

DIAMETER IN INCHES.	4	6	8	10	12	16	20	24	30
Length of pipe.....	118	184	89	9	77	32	18	4	17
Sleeves.....	21	39	34	9	10	10	6	9	11
Caps.....	61	76	73	20	22	3		1	
Plugs.....	26	41	19	2					
Curves, 1-4.....	6	1	18		3				
do. 1-8.....	7	13	8	2	5	1	6	3	
do. 1-16.....		5	3		4	3	5	1	2

DIAMETER IN INCHES.	4	6	8	10	12	14	16	18	20	24	30
Three-ways.....	12	11	4	7	5	8		4			1
Four-ways.....	6		7		7	11					
Reducers.....		14		4	16		3	13	5		

STOCK ON HAND.

1 30-inch manhole; 1 30-inch clamp sleeve, 1 24-inch clamp sleeve; 12 6 inch scurves; 24480 pounds pig lead, 17 bales gasket, 30 pounds clay, 1-2 cord of wood; 6 4-inch stop gates, 8 6-inch stop gates, 4 8-inch stop gates, 2 10-inch stop gates, 5 12-inch stop gates, 1 16-inch stop gate, 3 6-inch A. P. Smith gates, 2 12-inch Smith sleeves for tapping, 1-8 inch Smith sleeve for tapping, 25 iron gate boxes, 3 extra barrels for gate boxes, 26 gate box frames, 25 gate box covers, 55 gate spindles, 25 gate packings, 10 nuts for spindles, 1 Lowry hydrant, 10 Chapman hydrants, 8 Independent Outlet Chapman hydrants, 5 wooden hydrant boxes, 1 top part of Chapman hydrant, 1 Chapman hydrant barrel, 11 hydrant box frames, 15 hydrant box covers, 40 brass hydrant spindles, 12 iron spindles, 7 Independent valve spindles for Chapman hydrant, 31 tops of spindles, 15 leather hydrant valves, 14 spindle heads, 140 assorted packings, 9 nozzle caps, 3 fountain bells, 3 fountain uprights, 2 fountain bottoms, 2 front pieces for fountains, 9 dog troughs, 12 brass overflows, 6 fountain dippers, 25 feet of chain for dippers; 8 1-inch Crown meters, 2 3-4 inch Crown meters, 1 5-8 inch Crown meter, 5 tops for 5-8 inch Crown meters, 8 tops for 3-4 inch Crown meters, 8 tops for 1 inch Crown meters, 26 1-inch Crown meter unions, 39 3-4 inch Crown meter unions, 58 5-8 Crown meter unions, 2 2-inch Worthington meters, 20 Worthington meter tops, 20 Worthington meter spindles, 20 Worthington meter arms, 20 Worthington meter caps, 100 spindle packings, 2 1-inch pistons, new, 6 3-4 inch pistons new, 2 1-inch pistons, old, 4 3-4 inch pistons, old, 18 5-8 pistons old, 4 2-inch Worthington meter nipples and unions, 18 Worthington meter clocks, 2 5-8 inch Thomson meters, 1 3-4 inch Thomson meter, 2 1 1-2-inch Frost meters, 1 3-4-inch Frost meter, 3-4 roll paper for packing meters, 16 meter box frames and covers, 4220 feet 5-8-inch lead pipe, 233 feet 3-4 inch lead pipe, 318 feet 1-inch lead pipe, 16 1-2 feet 1 1-2-inch lead pipe, 115 feet 3-4-inch lead lined iron pipe, 710 feet 1-inch lead lined iron pipe, 82 feet 2-inch iron pipe, 70 feet 1 1-2 inch iron pipe, 25 feet 1-inch iron pipe, 37 feet 1-2 inch iron pipe, 110 1 inch corporation cocks, 371 3-4-inch corporation cocks, 94 1-inch sidewalk cocks, 367 3-4 inch side walk cocks, 28 1-inch side-walk cocks for iron pipe, 105 1-inch cellar cocks, 368 3-4-inch cellar cocks, 36 1-inch cellar cock unions, 48 1-inch corporation, cock unions, 138 3-4 inch corporation cock unions, 22 earthen sidewalk boxes 1 iron sidewalk box, 3 bottoms for iron sidewalk boxes, 9 2-feet extensions, 2 3-feet extensions, 20 plugs, 33 collars, 6 plugs for fire service boxes, 450 pounds fine solder, 57 pounds solder, 101 assorted goose necks, 5 pounds washers, 4 1x5-8 brass couplings, 57 3-4-inch brass couplings, 11 1x3-4 inch brass couplings, 10 1-inch brass couplings, 7 3-4x1-2 inch brass couplings, 3 1-inch brass elbows, 102 1x3-4 inch brass elbows, 4 1x5-8 inch brass elbows,

386 3-4 inch brass elbows, 62 3-4x5-8 brass elbows, 4 1x3-4 inch brass tees, 9 3-4 inch brass tees, 1 5-8 inch brass tees, 1 3-4 inch brass fourway, 6 1x3-4 inch brass bushings, 3 2-inch solder nipples, 7 1 1-2 inch solder nipples, 34 1 inch solder nipples, 46 3-4 inch solder nipples 34 5-8 inch solder nipples, 1 1-2 inch solder nipple, 2 1 1-4 inch brass nipples, 5 1 1-4x1 inch brass nipple, 1 1-inch brass nipple, 16 3-4 inch brass nipples, 1 5-8 inch brass nipple, 3 3-4x1-2 inch brass nipples, 3 3-4 inch brass plugs, 1 1 1-4 inch brass union, 2 1-inch brass unions, 13 2-inch valves 24 1 1-2 inch valves, 1 1 1-2 inch valve, 1 2-inch iron elbow, 3 1 1-2 inch iron elbows, 15 1 1-2x1 inch iron elbows, 1 1 1-4-inch iron elbow, 12 1 1-4x1 inch iron elbows, 50 1-inch iron elbows, 95 1x 3-4 inch iron elbows, 8 1x1-2 inch iron elbows, 1 3-4 inch iron elbow, 15 3-4x1-2 inch iron elbows, 1 2 1-2x1 1-2 inch iron tee, 4 2x1 1-2 inch iron tees, 3 2x1 1-4 inch iron tees, 5 2x1 inch iron tees, 13 1 1-2 inch iron tees, 1 1 1-2x1 1-4 inch iron tees, 1 1 1-2x1 inch iron tees, 6 1 1-2x3 4 inch iron tees, 2 1 1-4 inch iron tees, 42 1-inch iron tees, 1 1x3-4 inch iron tees, 56 3-4 inch iron tees, 23 2 inch iron unions, 14 1 1-2 inch iron unions, 1 1 1-4 inch iron union, 1 1-inch iron union, 21 3-4 inch iron unions, 13 2x1 inch iron fourways, 1 2x3-4 inch iron fourway, 11 1 1-2x1 2 inch iron fourways, 2 1x3-4 inch iron fourways, 9 1 inch iron fourways, 10 3-4 inch iron fourways, 8 2 inch iron nipples, 1 1 1-2 inch iron nipple, 7 1 1-4 inch iron nipples, 117 1 inch iron nipples, 100 3-4 inch iron nipples, 1 1-2 inch iron nipple, 3 2x1-2 inch iron bushings, 2 1 1-2x1 1-4 inch iron bushings, 3 1 1-2x1 inch iron bushings, 1 1 1-4x1-2 inch iron bushings, 143 1x3-4 inch iron bushings, 112 3-4x1-2 inch bushings, 136 1x1-2 inch iron bushings, 24 2 inch iron couplings, 1 2x1 1-2 inch iron couplings, 2 2x1 inch iron couplings, 19 1 1-2 inch iron couplings, 2 1 1-2x1 inch iron couplings, 4 1 1-4 inch iron couplings, 10 1 1-4x1 inch iron couplings, 91 1 inch iron couplings, 2 1 1-4x1-2 inch iron couplings, 76 1x3-4 inch iron couplings, 13 1x1-2 inch iron couplings, 16 3-4 inch iron couplings, 2 3-4x1-2 inch iron couplings; 7 2x1 inch Y's, 2 1 1-2 inch iron 1-8 bends, 1 2 inch iron 1-8 bend, 8 1 inch iron 1-8 bends, 5 3-4 inch iron 1-8 bends, 6 2-inch iron plugs, 20 1 1-2 inch iron plugs, 5 1 1-4 inch iron plugs, 12 1 inch iron plugs, 43 3-4 inch iron plugs, 1 1-inch iron flange, 6 1 inch iron caps, 3 3-4 inch iron caps; 5 gallons naphtha; 75 pounds leather; 5 pounds sealing wax; 300 pounds iron; 40 pounds steel; 8 lengths 6 inch drain pipe; 3-4 box dualin; 1 1-2 quires sandpaper; 20 pounds castile soap; 6 hammer handles; 1 1-4 barrels salt; 75 pounds new rope; 4 iron hitching bolts; 1 keg spikes; 2 galvanized iron pails; 7 rattan brooms, 1 dusting brush; 25 pounds waste; 1-2 barrel kerosene; 1 dozen harness hooks; 2 brooms; 400 feet 10x1 1-2 inch spruce; 400 feet 4x4 spruce.

Property and Tools at Pumping Station.

11 wrenches for High Duty Worthington Engine; 11 wrenches for Low Duty Worthington Engine; 11 wrenches for Morris Engine; 11 finished wrenches, 1 pipe vise, 2 work benches, 1 bench vise, 1 portable forge, 8 sets of brasses for engine, 2 sets differential blocks, 100 feet 2-inch rope, 1 set fire irons, 1 brass hydrant, 1 axe, 1 handsaw, 4 caulking chisels, 1 barometer, 3 thermometers, 1 oil cupboard, 2 oil dishes, 2 platform scales, 1 hay scale, 1 truck, 2 iron wheelbarrows, 1 high grade thermometer, 4 spare valves for Morris Engine, 5 sets spare wrenches for valves, 10 drills, 5 bits, 3 bit stocks, 2 clocks, 1 black walnut cabinet, 1 black walnut bookcase, 11 chairs, 1 table, 1 desk, 1 bed, 2 iron pails, 2 indicators, 1 level, 1 sprinkling can, 1 lubricator, 50 pounds soap, 1 test gage, 1 guage, 15 guage glasses, 5 brooms, 3 pair rope falls, 1 tool cupboard, 2 sledges, 2 copper hammers, 2 ratchet drills, 6 cold chisels, 1 2-inch auger, 1 keyhole saw, 1 square, 1 ladle, 3 step ladders, 1 set oil cans, 1 barrel tallow, 2 die stocks, 10 pair pipe tongs, 1 set dies, 5 monkey wrenches, 1 2-inch pipe cutter, 1 length 2 1-2 inch hose, 2 buck saws, 8 ladders, 1 grindstone, 6 lanterns, 30 gallons spindle oil, 40 gallons cylinder oil, 1 lawn mower, 1 hack saw, 2 rakes, 1 hoe, 3 jack screws, 100 feet 1-inch rubber hose, 5 crow bars, 9 taps, 1 extension bit, 2 gas plyers, 1 pair snips, 1 gas lamp and tubing, 1 large die plate, 1 small die plate, 1 fore plane, 3 chisel bars, 4 socket wrenches, 4 hand hammers, 1 hydrant wrench, 1 24-inch elbow, 1 ratchet wrench for 30-inch gate, 1 scythe, 1 snath, 4 assorted steel wrenches, 1 blow pipe and patent blower, 1 small Scotch drill, 1 furnace pot, 2 trowels, 1 tar kettle.

Property and Tools at Machine Shop.

1 8x10 plain slide valve engine, 1 grindstone, 1 10-foot engine lathe, 1 7-foot engine lathe, 1 5-foot speed lathe, 1 shaper, 1 upright drill, 1 emery wheel, 2 soldering furnaces, 1 large universal chuck, 1 large sud chuck, 1 small sud chuck, 40 turning tools, 13 flat chucking drills, 24 flat drills, 12 twist drills, 4 drill chucks, 12 washer cutters, 10 steel arbors, 4 large twist drills, 1 pair flat pliers, 12 lathe dogs, 3 soldering irons, 10 files, 3 reamers for Desper meters, 2 lathe cutters with arbors, 16 taps, 19 reamers, 3 tap wrenches, 1 adjustable tap wrench, 1 hand vise, 2 bench vises, 1 belt punch, 1 pair scales, 1 large pair scale, 1 step ladder, 1 clock, 1 map showing stop gates, 1 railroad jack, 1 A. P. Smith tapping machine, 1 set wood chisels, 1 set bits, 1 set steel figures, 2 naphtha furnaces, 1 charcoal furnace, 1 set plumbers' tools, 8 lengths 2 1-2 inch hose, 4 dutchmen, 2 nozzles, 15 pairs rubber boots, 4 diagrams of meters, 4 50-foot tapes, 1 large oil can, 1 gate plan, 1 desk, 1 chair, 2 post hydrant wrenches, 3 paving hammers, 4 caulking hammers, 1 small oil can, 2 hack saws, 3 buck saws, 1 floor brush, 2 dust pans, 1 pair scissors, 1 Stillson wrench, 1 nail puller, 1 pair round-nosed pliers, 1 wire cutter, 1 bit stock, 1 pair snips.

Tools and Property at Pipe Department.

6 Stillson wrenches, 6 monkey wrenches, 2 screwdrivers, 1 hammer, 3 tapping machines, 3 full sets of rubbers for tapping machines, 12 taps, 1 hand boring bar, 1 gate ratchet, 4 oil cans, 2 1-inch combination taps and drills, 2 3-4 inch combination taps and drills, 2 files, 3 cold chisels, 5 assorted wrenches, 5 pipe cutters, 8 die stocks, 24 dies, 10 pipe tongs, 2 pipe vises, 2 ratchets, 3 small hand pumps, 1 portable forge, 1 stationary forge, 2 coils block tin tube, 1 coil block tin rod, 1 set blacksmith tools, 1 handsaw, 1 draw shave, 1 marin spike, 10 steel drills, 1 galvanised iron pail, 2 washer cutters, 2 post hydrant wrenches.

Property in Meter Department.

3 Stillson wrenches, 1 monkey wrench, 1 naphtha lamp, 2 small meter wrenches, 1 L. W. W. seal, 1 cold chisel, 2 pair pliers, 1 claw hammer, 1 saw, 1 file, 2 screwdrivers.

Property at Tool House.

500 pounds steel drills, 43 picks, 2 square pointed shovels, 62 round pointed shovels, 24 pick handles, 9 crowbars, 4 steel bars, 15 mauls, 8 striking hammers, 6 sledge hammers, 16 gate wrenches, 11 small gate wrenches, 3 fork wrenches, 10 sidewalk wrenches, 1 battery and wires, 4 paving mauls, 1 copper boiler, 3 scoop shovels, 6 hydrant wrenches, 6 post hydrant wrenches, 4 derrick falls, 5 tag ropes, 2 marine pumps, 5 suction hose for pumps, 5 ladles, 26 lanterns, 9 chains, 2 lead pots, 5 caulking hammers, 5 iron pails, 50 feet of 1-inch rubber hose, 1 long handle shovel, 1 scoop dipper, 3 oil cans, 16 caulking tools, 12 cutters, 3 axes, 6 snow shovels.

Property at Reservoir.

1 boat, 1 long handle shovel, 1 wooden shovel, 1 square shovel, 2 long handle spades, 1 iron rake, 2 wooden rakes, 1 saw, 1 square, 2 ice chisels, 2 picks, 1 crow bar, 1 scythe, 1 wheelbarrow, 1 lantern, 1 stool, 1 axe, 1 hammer, 1 monkey wrench, 2 lawn mowers, 1 hose and carriage, 1-4 barrel oil.

Property at Superintendent's Office.

2 desks, 2 chairs, 1 case drawers and bookcase, 1 hat tree, 1 gate plan, 1 feather duster, 1 letter press, 1 map of Lowell, 1 waste basket.

Property at Gallery Gate House.

1 boat and oars, 2 pair falls, 1 gate wrench, 1 fork wrench, 1 tee wrench, 2 tag ropes, 1 iron pail, 1 dip net, 2 brooms, 2 oil cans, 1 shovel, 3 ice poles.

Property at Stable.

5 horses, 7 single harnesses, 1 set double harness, 5 stable blankets, 5 street blankets, 1 single truck, 1 2-horse truck, 4 sleighs, 5 wagons, 1 1-2 tons hay, 5 bales straw, 90 bushels oats, 4 forks, 3 brooms, 4 rubber horse covers, 1 wolf skin robe, 1 lap robe, 3 mane brushes, 4 curry combs, 4 horse brushes, 5 halters, 1 string bells, 2 chamois skins, 1-2 box harness soap, 2 carriage sponges, 2 harness sponges, 2 wagon jacks, 1 hay cutter, 2 feed boxes, 1 sprinkling can, 50 pounds rock salt.

Property at Filter Inlet.

16 shovels, 7 hoes, 2 rakes, 1 pick, 1 ice chisel, 1 gate wrench, 2 wheelbarrows.

Property in Water Board Office.

18 chairs, 5 high chairs and stools, 1 letter press, 5 desks with drawers, 3 standing desks with drawers, 4 office tables, 1 cabinet letter-file, 2 bill-cabinets, 1 bill-holder, 1 black-walnut cabinet, 1 safe, 1 clock, 3 waste baskets, 7 spittoon, 4 street wrenches, 1 rubber mat, 2 brooms, 1 dust-pan, 1 map distributing mains, 1 map water-works system, 1 map of Lowell, 2 atlas of Lowell, 1 water gauge, 1 pressure and recording gauge, with an alarm bell attachment, 1 screwdriver, 1 hammer, 1 hat-rack, 1 instrument for testing capacity of engines, 1 umbrella rack, 1 water-cooler, 1 feather duster, 1 type-writing machine, 2 glass drinking mugs, 1 towel rack, 3 tin chests for filling vouchers.

REPORT OF THE ENGINEER.

OFFICE OF CITY ENGINEER.

LOWELL, MASS., Jan. 1, 1893.

To the Lowell Water Board:

GENTLEMEN:—The following is the Twentieth annual report of the work done by the pumping engines at the Lowell Water Works.

The tables showing the duty of the engines, etc., have been calculated from the records kept by the engineers in charge, Messrs. James P. Roberts from January 1st to April 23d, and Daniel Hart, Jr. from April 23 to January 1st, 1893.

The Morris engine was used only during a part of the months of January, February and March.

It is undergoing extensive repairs which are not completed.

The Worthington Duplex Engine has been used but little, having run but 33 days during the year.

The new Worthington High Duty Engine has been run 307 days and 226 nights during the year. The increased economy of this engine over the others is shown in the tables which follow.

The consumption of water from the High Service System has increased but little over last year. There

was pumped 32,743,788 gallons were pumped from the low service into the high service reservoir at a cost of fifteen and 57-100 dollars (\$15.57) per million gallons, including cost of pumping into low service reservoir; this was done by the Worthington High Service Engine in 97 days, the average run per day being 9 hours 28 minutes.

There was pumped into the low service reservoir 2,225,327,050 gallons of water, an increase of 68,399,074 gallons over last year. In pumping this quantity of water 3,399,259 pounds of coal were consumed; being 812,291 pounds less than was used in 1891. This is a decrease of nearly 22 per cent. in the amount of coal consumed per million gallons pumped; a saving due to the use of New Engine and New Boilers.

Table Showing Work Done With Morris Engine (Beam and Fly Wheel) and Boilers for Each Month During the Year 1892.

MONTHS.	Number of days pumping.	Average No. of hours pumping per day.	Number of hours pumping per month.	Number of strokes made per month.	Average No. of strokes made per minute.	Average head, including friction, in feet.	Quantity pumped per month in United States gallons.	Average quantity pumped per day in U.S.gall.s.	No. galls. of water raised into reservoir per pound total coal consumed.	Duty in lbs., 1 foot high, with 100 lbs. coal, used in pumping only no deduction for ashes or clinkers.	Duty on total coal consumed no deduction for ashes or clinkers.
January	9	14-38	131-40	85,915	10.88	163.46	27,492,800	3,054,755	482	84,244,922	65,640,970
February	15	21-24	321-00	237,873	12.35	164.19	76,119,360	5,074,624	574	95,035,244	78,491,818
March	4	16-30	66-00	47,801	12.07	165.22	15,296,320	3,824,080	539	94,027,522	74,162,559
April											
May											
June											
July											
August											
September											
October											
November											
December											
Totals and averages . . .	28	18-31	518-40	371,589	11.94	164.12	118,908,480	4,246,731	545	92,169,830	74,551,879

Table Showing Work Done With Worthington Duplex Engine for Each Month During the Year 1892.

MONTHS.	No. of days pumping.	Average No. of hours' pumping per day.	Number of hours pumping per month.	Number of strokes made per month.	Average No. of strokes made per minute.	Average head, including friction, in feet.	Quantity pumped per month in United States gallons.	Average quantity pumped per day in U. S. gallons.	No. galls. water raised into reservoir per lb. total coal consumed.	Duty in lbs. 1 ft. high with coal used in pumping only, no deduction for clinkers or ashes.	Duty on total coal consumed, no deduction for clinkers or ashes.
January	3	16-51	50-35	28,525	9.40	165.47	8,842,750	2,947,583	391	64,316,412	53,957,489
February	16	19-13	307-30	177,214	9.60	163.87	54,936,340	3,433,521	399	64,677,701	54,524,813
March	4	16-15	65-00	34,170	8.76	165.22	10,592,700	2,648,175	392	65,700,667	54,020,550
April											
May											
June	2	8-00	16-00	7,970	8.30	167.37	2,470,700	1,235,350	512		71,499,683
July											
August											
September											
October	4	18-37	74-30	54,821	12.26	164.87	16,994,510	4,248,627	421	60,291,514	57,899,587
November											
December	4	15-22	61-30	44,722	12.12	163.21	13,863,820	3,465,955	396	55,830,936	53,915,420
Totals and averages	33	17-26	575-05	347,422	10.07	164.43	107,700,820	3,263,661	403	62,941,435	55,209,308

Table Showing Work Done With Worthington High Duty Pumping Engine for Each Month During the Year 1892.

MONTHS.	No. of days pumping.	Av. No. of hours pumping per day.	Number of hours pumping per month.	Number of strokes made per month.	Av. No. of strokes made per minute.	Average head including friction in feet.	Quantity pumped per month, in U. S. galls.	Average quantity pumped per day, in U. S. galls.	No. galls. of water raised into reservoir per lb. total coal consumed.	Duty in lbs. per 100 lbs. coal, with 100 lbs. coal, used in pumping only, no deduction for ashes or clinkers.	Duty on total coal consumed, no deduction for ashes or clinkers.
January	25	15-24	385-10	393,056	17 01	166.95	147,396,000	5,895,840	599	94,126,565	83,407,673
February	10	15-45	157-25	167,221	17 70	170.62	62,707,875	6,270,787	579	92,598,000	82,337,358
March	23	18-35	427-20	437,057	17 05	167.24	163,896,375	7,125,929	682	108,000,522	95,057,348
April	23	17-53	411-10	428,967	17 39	168.15	160,862,625	6,994,027	669	107,218,444	93,771,532
May	22	18-58	417-15	432,694	17 28	167 60	162,260,250	7,375,466	679	108,462,225	94,845,413
June	27	18-19	494-25	499,923	16 85	167.80	187,471,125	6,943,375	689	109,873,990	96,311,667
July	30	18-23	551-25	544,895	16 47	170.29	204,335,625	6,811,188	719	106,656,781	102,076,573
August	31	17-04	529-15	529,023	16 66	170.59	198,383,625	6,399,472	731	106,775,627	103,942,368
September	30	17-50	535-10	506,198	15 76	163 02	189,824,250	6,327,475	711	106,332,983	96,541,044
October	28	17-19	484-55	485,691	16 69	162.50	182,134,125	6,504,790	686	96,146,000	92,922,383
November	30	14-15	427-30	447,639	17 45	167.34	167,864,625	5,595,487	707	103,178,979	98,532,318
December	28	15-09	424-00	457,550	17 99	162.29	171,581,250	6,127,902	709	100,851,300	95,852,667
Totals and averages	307	17-05	5245-00	5,329,914	16 94	166.83	1,998,717,750	6,510,481	686	103,861,268	95,372,444

Table Showing Amount of Coal Used for Morris Engine at Pumping Station During the Year 1892.

MONTHS.	COAL CONSUMED.			
	For starting fires, in lbs.	When pumping, in lbs.	For banking fires, in lbs.	Total per month, in lbs.
January.....	6,600	44,457	6,000	57,057
February.....	15,600	109,600	7,500	132,700
March.....	3,600	22,400	2,400	28,400
April.....				
May.....				
June.....				
July.....				
August.....				
September.....				
October.....				
November.....				
December.....				
Totals.....	25,800	176,457	15,900	218,157

Table Showing Amount of Coal Used for Worthington Duplex Engine
at Pumping Station During the Year 1892.

MONTHS.	COAL CONSUMED.			
	For starting fires, in lbs.	When pump ing, in lbs.	For banking fires, in lbs.	Total per month, in lbs.
January.....	2,840	18,960	800	22,600
February.....	16,200	116,000	5,400	137,600
March.....	3,600	22,200	1,200	27,000
April.....				
May.....				
June.....		4,820		4,820
July.....				
August.....				
September.....				
October.....	1,600	38,730		40,330
November.....				
December.....	1,200	33,776		34,976
Totals.....	25,440	234,486	7,400	267,326

Table Showing the Amount of Coal Used for Worthington High Duty Engine During the Year 1892.

MONTHS.	COAL CONSUMED.			
	For starting fires, in lbs.	When pump- ing, in lbs.	For banking fires, in lbs.	Total per month, in lbs.
January.....	21,000	217,878	7,000	245,878
February.....	9,000	96,295	3,000	108,295
March.....	21,600	211,513	7,200	240,313
April.....	22,170	210,250	7,980	240,400
May.....	22,200	208,959	7,800	238,959
June.....	25,200	238,608	8,400	272,208
July.....	11,400	271,893	800	284,093
August.....	7,200	264,144		271,344
September.....	18,200	242,537	6,400	267,137
October.....	8,600	256,547	300	265,447
November.....	10,600	226,893	100	237,593
December.....	11,800	230,109	200	242,109
Totals.	188,970	2,675,626	49,180	2,913,776

Table Showing Work Done With Worthington High-Service Engine for Each Month During the Year 1892.

MONTHS.	No. of days' pumping.	Average No. of hours pumping per day.	Number of hours pumping per month.	Number of strokes made per month.	Average number of strokes made per minute.	Average head, including friction, in feet.	Quantity pumped per month, in United States gallons.	Average quantity pumped per day in U. S. gallons.	No. galls. water pumped into reservoir per lb. of total coal consumed.	Coal in lbs. used when pumping.
January	5	14-36	73-00	182,546	41.68	78.70	2,555,644	511,129	242	10,545
February	8	8-53	71-00	156,367	36.71	78.41	2,189,138	273,642	279	7,840
March	6	15-05	90-30	204,337	37.63	78.70	2,860,718	476,786	280	10,200
April	5	12-12	61-00	166,364	45.45	78.70	2,329,096	465,819	284	8,200
May	7	8-29	59-26	157,813	44.25	78.70	2,209,382	315,626	260	8,500
June	7	12-11	85-15	226,758	44.33	77.87	3,174,612	453,516	300	10,582
July	11	9-23	103-18	237,557	38.33	78.70	3,325,798	302,345	300	11,085
August	9	8-32	76-45	217,690	47.27	78.70	3,047,660	338,029	267	11,419
September	14	6-20	88-40	232,539	43.72	78.70	3,255,546	232,539	301	10,820
October	10	7-53	78-45	214,723	45.44	78.12	3,006,122	300,612	315	9,549
November	6	9-05	54-30	139,177	42.56	78.70	1,948,478	324,746	300	6,493
December	9	8-23	75-30	202,971	44.81	78.70	2,841,594	315,733	300	9,470
Totals and averages . . .	97	9-28	917-39	2,338,842	42.48	78.45	32,743,788	337,565	285	114,703

PUMPING STATION—Morris Engine.

RUNNING EXPENSES FOR THE YEAR 1892.

Pay of engineers and firemen.....	\$305.94
109 $\frac{157}{200}$ tons coal (Cumberland, 1891) at \$4.33.....	472.31
$\frac{1}{2}$ cord of wood at \$4.33.....	2.17
Gas for lighting works.....	14.65
Electric light.....	24.00
21 gallons cylinder oil at 44 $\frac{65}{100}$ c.....	9.38
5 gallons machine oil at 25c.....	1.25
19 pounds of cotton waste at 11 $\frac{47}{100}$ c.....	2.18
6 pounds Eureka packing at 60c.....	3.60
Tools and stock.....	3.00
Sundries.....	1.65
Total.....	840.13
Cost of pumping water into reservoir per million gallons...	7.07
Cost of pumping water one foot high per million gallons...	0.04 $\frac{31}{100}$

PUMPING STATION—Worthington Engine.

RUNNING EXPENSES FOR THE YEAR 1892.

Pay of engineers and firemen.....	\$305.92
93 $\frac{200}{1000}$ tons of coal (Cumberland 1891) at \$4.33.....	405.29
40 $\frac{126}{1000}$ tons of coal (Cumberland 1892) at \$4.079.....	163.42
$\frac{1}{2}$ cord of wood at \$4.33.....	2.17
Gas for lighting works.....	14.65
Electric light.....	24.00
20 gallons cylinder oil at 44 $\frac{65}{100}$ c.....	8.93
5 gallons machine oil at 25c.....	1.25
20 pounds cotton waste at 11 $\frac{47}{100}$ c.....	2.29
5 $\frac{1}{2}$ pounds Eureka packing at 60c.....	3.30
Tools and stock.....	3.00
Sundries.....	1.65
Total.....	935.87
Cost of pumping water into reservoir per million gallons...	8.69
Cost of pumping water one foot high per million gallons...	0.05 $\frac{28}{100}$

PUMPING STATION—Worthington High Duty Engine.

RUNNING EXPENSES FOR THE YEAR 1892.

Pay of engineers and firemen.....	\$5582.92
417 $\frac{880}{2000}$ tons of coal (Cumberland 1891) at \$4.33.....	1807.53
1039 $\frac{880}{2000}$ tons of coal (Cumberland 1892) at \$4.079.....	4239.89
8 cords of wood at \$4.33.....	34.64
Gas for lighting works.....	131.85
Electric light.....	216.00
364.5 gallons of cylinder oil at 44 $\frac{65}{100}$ c.....	162.75
55.4 gallons machine oil at 25c.....	13.85
335 pounds cotton waste at 11 $\frac{47}{100}$ c.....	38.42
17.75 pounds of packing.....	11.60
Repairs on boilers (new grates, etc.).....	88.59
Tools and stock.....	53.74
Sundries.....	29.82
Total.....	12411.60
Cost of pumping water into reservoir per million gallons...	\$6.21
Cost of pumping water one foot high per million gallons...	0.03 $\frac{72}{100}$

Reservoir, Beacon Street, 1892.

MONTHS.	Depth in feet.	Quantity in United States gallons.	TEMPERATURE IN DEGREES.	
			Of water.	Of air.
January.....	17.77	26,792,581	32.10	26.49
February.....	17.61	26,530,960	32.14	27.41
March.....	18.72	28,370,242	33.40	32.09
April.....	19.24	29,238,496	46.13	49.15
May.....	18.93	28,713,269	54.63	57.29
June.....	18.55	28,079,267	69.25	72.89
July.....	18.21	27,522,601	72.73	74.64
August.....	18.81	28,511,796	73.50	71.52
September.....	14.88	22,126,216	64.11	63.86
October.....	16.74	25,103,115	53.19	51.93
November.....	18.29	27,660,520	40.72	41.98
December.....	18.39	27,817,916	32.00	28.47

Table Showing the Average Monthly and Daily Consumption of
Water for the Year 1892.

MONTHS.	Gallons per month.	Gallons per day.
January.....	183,249,719	5,911,281
February.....	191,819,038	6,614,450
March.....	188,591,320	6,083,591
April.....	160,226,363	5,340,879
May.....	162,472,644	5,241,053
June.....	191,139,498	6,371,317
July.....	209,024,862	6,742,737
August.....	200,267,787	6,460,251
September.....	190,091,212	6,336,374
October.....	194,997,415	6,290,239
November.....	168,413,775	5,613,792
December.....	182,886,525	5,899,565
Totals and averages.....	2,223,180,158	6,074,263

ANALYSIS OF MERRIMACK RIVER WATER,
By the State Board of Health.

The past year is the sixth consecutive year in which a sample of water has been taken every month from the Merrimack River opposite the inlet pipe, and sent to the State Board of Health for analysis.

The analyses for the year 1891 is appended to this report.

Respectfully submitted,

GEORGE BOWERS.

City Engineer.

WATER SUPPLY OF LOWELL.

Chemical Examination of Water from the Merrimack River Above Lowell, Opposite the Inlet to the Lowell Water Works. (Parts per 100,000).

Number.	DATE OF		APPEARANCE.			Residue on Evaporation.		Ammonia.				Chlorine.		Nitrogen as		Hardness.
	Collection.	Examination.	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Free.	Total.	Dissolved.	Suspended.			Nitrates.	Nitrates.	
6921	January 19	January 20	V. Slight.	Slight.	0.40	3.45	1.20	.0018	.0142	.0122	.0020	.08	.0180	.0001	.0001	1.0
7028	February 16	February 17	V. Slight.	V. Slight.	0.30	3.30	1.05	.0000	.0066	.0054	.0012	.10	.0190	.0002	.0002	1.3
7123	March 16	March 17	Slight clayey	Considerable.	0.25	2.65	1.00	.0000	.0138	.0108	.0030	.06	.0100	.0001	.0001	0.9
7233	April 20	April 21	Decided.	Heavy earthy	0.23	2.30	0.75	.0002	.0084	.0066	.0018	.06	.0120	.0001	.0001	0.8
7330	May 19	May 20	Distinct.	Heavy.	0.30	3.10	1.05	.0004	.0142	.0106	.0036	.10	.0070	.0001	.0001	1.1
7451	June 15	June 16	V. Slight.	Slight.	0.30	3.60	1.55	.0016	.0144	.0106	.0038	.16	.0090	.0002	.0002	—
7576	July 20	July 21	Slight.	Slight.	0.50	3.40	1.80	.0020	.0142	.0100	.0042	.14	.0070	.0001	.0001	1.1
7833	August 19	August 20	Slight.	Slight.	0.10	3.15	1.60	.0002	.0140	.0118	.0022	.12	.0030	.0003	.0003	1.1
7930	September 14	September 15	V. Slight.	V. Slight.	0.20	3.65	1.15	.0012	.0120	.0080	.0040	.15	.0100	.0000	.0000	1.6
8158	October 21	October 22	Slight.	Slight.	0.20	3.75	1.25	.0048	.0128	.0100	.0028	.22	.0090	.0002	.0002	1.6
8253	November 10	November 11	Slight.	Slight.	0.30	4.85	1.50	.0078	.0208	.0164	.0044	.24	.0100	.0002	.0002	1.4
8334	December 15	December 16	Slight.	V. Slight.	0.40	4.00	0.90	.0004	.0096	.0080	.0016	.17	.0500	.0001	.0001	1.1
Average					0.29	3.43	1.23	.0017	.0129	.0100	.0029	.13	.0137	.0001	.0001	1.2

Odor, generally faintly vegetable or musty, frequently none. The samples were collected from the river, opposite the inlet to the Lowell Water Works, one foot beneath the surface.

COMMUNICATION.

Water Board

TO

Lowell City Council,

ASKING FOR APPROPRIATION OF MONEY FOR A

SUPPLEMENTARY WATER PLANT.

1892.

OFFICE LOWELL WATER BOARD,

CITY HALL, LOWELL, MASS

*To the Honorable the Mayor and City Council of
the City of Lowell:*

GENTLEMEN:—In official communications from year to year, the Water Board has informed you of Water Works results, condition of plant, has recommended improvements, and, more especially in recent years, has called your earnest attention to that very important subject, the quality of the Lowell Water Supply. You have been informed that a steady deterioration in quality of Merrimack River water was slowly but surely occurring that eventually must lead either to its abandonment, as a source of supply, or to its improvement by some method of treatment.

You have been told by an eminent Biologist, who is sustained by the highest official sanitary authority in the State, "that there is danger, both constant and grave, in the water of the Merrimack River at Lowell." You have been told that it is the belief of the scientific gentleman referred to, that the infection of the Merrimack River, and therefore of the water supply, accounts completely and satisfactorily for the Lowell and Lawrence epidemics of 1890-'91, as well as for the constant excess of typhoid fever from which these cities have long suffered. In this belief, again, is the authority sustained by the Massachusetts State Board of Health.

You know upon the authority of the State Board of Health that in Lowell and Lawrence there are nearly three times as many deaths by typhoid fever as with the same number of people in other cities of our State. You know from the same authority that the general healthfulness of these two cities compares favorably with that of other cities in the State; but that diseases which are attributable to an impure water supply are more] prevalent and deadly in these cities than in any others in the State.

Knowing all these things to be true, or assuming their truth, based upon the authority which gives utterance to the statements, you have full knowledge of the fact that the Lowell Water Board has for a considerable time labored to meet

the tremendous responsibility, and intelligently dispose of the question—How shall the city's water supply be improved?

Thus far the responsibility has been borne by the Lowell Water Board, but from now, your honorable body must share in that responsibility.

If the State Board of Health of Massachusetts is correct in its estimate of Merrimack River water at Lowell, we should act at once. That the river water is a source of danger, we, the Water Board, believe is true. We also believe that were epidemic disease to exist in the Merrimack Valley above us, dire results would follow the drinking of river water in this city.

At least we cannot assume the responsibility of denying grave results, in the face of the authority that does not hesitate to predict the occurrence.

Can and will the gentlemen who compose the City Council of 1892, take the responsibility of doubting the gravity of the situation?

It will be for your honorable body to state by the action you, in your wisdom, shall see fit to take.

The remedy that we would suggest is the immediate procuring of a supplementary supply of ground water in accord with recommendations as submitted the Water Board November 17, 1892, by George Bowers, City Engineer, a copy of which is hereunto attached.

Probably the highest authority in this country upon the subject of ground water, Professor N. S. Shaler of Harvard College, says (October 18, 1892): "The region in which Lowell lies is more than usually well placed with reference to a supply of ground water. No other large town in New England is in so advantageous a position in this regard. * * * * * On the south of the town (Lowell) in the valley of Meadow Brook, there is a wide trough, for ages occupied by the Merrinack River when it entered the sea at Boston Harbor, which is now filled to a great and as yet unknown depth with water bearing sand. It therefore seems to me well that you have begun your search for an improved water supply by a trial search of these underground stores."

Mr. Bowers' figures will convince you that actual trial sustains Professor Shaler's opinions and predictions so far as experimental trial can show.

City Engineer Bowers has given the subject careful and conscientious study from the beginning. His work we recognize as of great value to our city. We approve his recommendations viz: to build a temporary pumping plant for ground water near the Poor Farm. Professor Shaler sustains us in such approval, a fact that we learn with satisfaction to ourselves.

We ask you, therefore, to at once provide the means wherewith we may immediately enter upon this work. If it is a rational project, and meets

your confidence, certainly the sooner accomplished, the better.

In closing we will say we have undertaken to make this communication as brief as the importance of the subject would allow, but will add that abundant material in the way of detail information is in our possession, all of which we hold subject to your demand or examination in any way you shall elect.

We have the honor to be your very respectful servants,

MILES F. BRENNAN,
ARTHUR F. SALMON,
RICHARD B. ALLEN,
JAMES W. CASSIDY.

REPORT
OF THE
CITY ENGINEER
TO THE
LOWELL WATER BOARD,
UPON THE SUBJECT OF OBTAINING A WATER SUPPLY
FOR THE CITY OF LOWELL, FROM
DRIVEN WELLS.

1892.

OFFICE OF CITY ENGINEER,
CITY HALL, LOWELL, MASS.,
NOVEMBER 17, 1892.

LOWELL WATER BOARD:

Gentlemen: Acting under your instructions I have taken charge of the driven well experiments authorized by your Board, and submit the following report:

The proposal having been accepted from the firm of William D. Andrews & Bro., of New York "to furnish men, machinery, tools and superintendence for the purpose of determining the quantity

and quality of water obtainable in the locality about the City of Lowell, by means of gang wells," work was begun July 16, 1892, and continued until the present time.

Four localities have been tested as follows:— First, land on the north bank of Merrimack River west of present filter gallery; second land on the north bank of the river, about 4000 feet west of the first test; third, land near the junction of the Merrimack River and Beaver Brook; fourth, land south of Plain Street on both sides of River Meadow Brook.

LAND NEAR FILTER GALLERY.

This location was tested last year by Delbert L. Barker, who sunk an open end three inch pipe 53 feet deep to ledge; this well yielded 3 gallons per minute. Mr. Andrews pulled up this pipe and put down a pipe 24 feet 5 inches long, with a two-foot Andrews' strainer, and it then gave 15 gallons per minute at the same place. The water is good and a permanent pump has been put on, the water being used for public drinking at the Boulevard. The first Andrews well was located at the river bank, south of the Barker well above described, and was washed down to a depth of 86 feet 10 inches to rock.

The ground at this place consisted of 21 alternate layers of sand and fine gravel (a sample of each layer has been preserved). No water bearing material being found below 32 feet from the surface, the pipe

was pulled up to that point and pumped, yielding 35 gallons per minute.

The water was of good quality, having a temperature of 46 degrees, the water being 30 degrees cooler than the river at that time. Three hundred feet west from here they struck rock at a depth of 13 feet below the surface, and 20 feet further west struck rock again at 11 feet below the surface.

The finding of this ledge so near the surface was entirely unexpected, and may account for the small quantity of water obtained at the Barker well above mentioned.

SECOND LOCATION.

The first test at this place was made at a point just east of the Old Ferry Road on the river bank, where the land is low and submerged during high water in the river. Here a gang of ten wells was driven and connected, and two additional wells were driven as wells to be used for testing the ground water while pumping, and the Pierce well No. 3, driven last year, was used for the same purpose.

At first six wells were connected and pumped thirty-nine hours and fifty minutes, yielding 482,884 gallons. Then two more wells were added to the gang, making eight wells; they were pumped sixteen hours, total yield during this time 374,389 gallons. After this two more wells were added, making the gang of ten wells. This gang was pumped during the day time for about six days of nine hours each, making a total time of fifty-four hours eighteen minutes, total yield 1,550,789 gallons. Then a continuous run of nine

days, nineteen hours, nineteen minutes was made ; total amount of water pumped during this time 4,774,043 gallons, making an average yield per twenty-four hours of 486,905 gallons. Average depth of wells 26 feet 8 inches. All wells this year are two-inch pipe with Andrew's patent strainers. The earth at this location consists of first, a layer of about 19 feet of very fine sand, mixed with river silt, which is very compact and nearly impervious to water ; next is a layer of coarse sand about 6 feet deep ; under this is a layer of about 36 feet of quick-sand. After pumping this plant by steam for about ten hours, detected a slight odor and taste of iron, which continued to increase until near the end of the pumping, as the analysis will show. The circulation of the water in the ground was very free, and the water came back in the wells very quickly after pumping was stopped.

The wells were located so they could be readily connected in the following manner : They were placed alternately on either side of a 4-inch main and 5 feet from it ; the connections were 13 feet apart ; one well was located at each end of the main. A 6-inch centrifugal pump was placed to draw from the centre. All the water was measured by a 6-inch meter.

Samples of water from all of the wells were sent to the State Board of Health for analysis, and copies of the analyses were kindly sent to me as soon as possible by Mr. Stearns, Chief Engineer, which was a great help in our experiments.

Analyses of water from this plant by State Board of Health is as follows :

Commonwealth of Massachusetts.—State Board of Health.

WATER ANALYSIS.—(Parts in 100,000.)

No.	Collec- tion.	Date of Exami- nation.	Appearance.		Odor.		Residue on Evapor.		Ammonia,		Chloride.	Nitrogen as Nitrates, per cent.		Hardness.	Iron.	Manganese.	REMARKS.
			Turbid- ity.	Sedi- ment.	Color.	Cold.	Hot.	Total.	Free.	In Solu- tion.							
9232	1832 Aug. 10	Aug. 11	V. sl't Milky	None	0.02	None	None	5.75	.0086	.0000	.044	.0650	.0001	2.6	.0350		Gang of 6 driven wells.
9241	12	12	V. sl't	None	0.02	None	None	5.80	.0222	.0012	.040	.1000	.0001	2.7	.0600		Gang of 6 driven wells.
9275	18	19	V. sl't Milky	None	0.0	Faint, uplea	None	5.65	.0280	.0000	.042	.0700	.0001	3.0	.1550		4 days.
9320	30	30	None	None	0.18	None	None	6.70	.0344	.0000	.040	.0450	.0002	2.4	.2500		2 days.
9322	31	Sept. 1	None	None	0.20	None	None	6.75	.0362	.0014	.042	.0400	.0002	3.3	.2350		
9344	2	3	stand- d sl't granu- lous	None On	0.02	None	None	6.75	.0480	.0012	.042	.0300	.0002	2.6	.2250		
9348	6	7	v. sl't Milky sl't rusty.	None On	0.40	v. faint or None	None	6.85	.0480	.0004	.039	.0280	.0001	2.9	.0750		2 days.
9345	3	3	None	None	0.00	None	None	7.20	.0020	.0004	.040	.0400	.0004	2.7	.0750		2 days.
9373	18	19	None sandy	Slight	0.00	None	None	6.25	.0002	.0000	.080	.1000	.0000	3.10	.0200	.0060	Color did not increase on standing.
9374	18	19	None sandy	Slight	0.00	None	None	5.90	.0000	.0000	.070	.2000	.0000	3.00	.0300	.0020	Color did not increase.

Nos. 9320, 9322 and 9348 were colorless when received, and the color given was determined after the water had stood the length of time given in the column "Remarks."

The above analysis is unsatisfactory, showing a large amount of free ammonia and iron in the water. The water although not unhealthful, would be rusty in color and therefore would not satisfy consumers.

About 1500 feet from here and near the upper end of the Pawtucket Boulevard we made our next test. The land is higher here and the wells were driven at a greater distance from the river. Here a second plant similar to the one just described was driven. The sand at the first place had a rusty color; here it was clean and white; average depth of wells 31 feet; average yield was as follows:

Gang of six wells pumped 22 hours 32 minutes, yield 186,382 gallons.

Gang of eight wells pumped 16 hours 33 minutes, yield 167,537 gallons.

Gang of ten wells made a continuous run of 9 days 21 hours and 10 minutes, yield 4,529,280 gallons. Average yield ten wells for 24 hours was 458,337 gallons. The circulation of the water in the ground was free, and after the long run it came back to its original height in the wells in 50 minutes after the stopping of the pump. Four test wells were used to measure the ground water in, the one on the north side was 150 feet, on the south 100 feet, on the west 86 feet, on the east 8 feet distant from the gang. A record was made every 30 minutes in the day time of each of the wells while running, with the following results:

Average fall in the well on the North side	2.1
Average fall in the well on the South side	2.2
Average fall in the well on the East side	5.9
Average fall in the well on the West side	2.0

The water rose and fell in the wells as the speed of the pump was changed, it also rose and fell with the water in the river.

The temperature of the water from the wells was 47 degrees.

The analysis of this water by the State board of Health as given below is very satisfactory, showing the water to be of very fine quality. The analysis is as follows:

Commonwealth of Massachusetts.—State Board of Health.

WATER ANALYSIS. (Parts in 100,000.)

N ^o .	DATE OF		APPEARANCE.		ODOR.		RESIDUE ON EVAPORATION.			AMMONIA.			NITROGEN AS		Hardness.	Iron.	Manganese.	REMARKS.			
	Collection.	Examination.	Turbidity.	Sediment.	Color.	Cold.	Hot.	Total.	Loss on Ignition.	Fixed.	Free.	Total.	In Solution.	In Suspension.					Nitrates.	Nitrites.	
1892. Sept. 16	1892. Sept. 17		None.	None.	0.0	None.	None.	4.75	.....	.....	.0000	.0000	.....	.....	.33	.0900	.0000	1.7	.0075	.....	9386 From gang of six wells on land purchased of G L. Goodale.
9386	9400	19	None	None.	0.0 When rec'd	None.	None.	4.65	.....	.....	.0000	.0000	.....	.....	.36	.0700	.0000	1.7	.0100	.....	9400. Gang of 8 wells.
9422	22	23	None.	None.	0.0 When rec'd	None.	None.	5.15	.....	.....	.0000	.0016	.....	.....	.35	.0800	.0000	1.8	.0100	.....	9422. Gang of 10 wells.
Sept. 30	Sept. 30	1	None.	None.	0.0	None.	None.	5.10	.....	.....	.0004	.0000	.....	.....	.31	.0780	.0001	2.7	.....	.....	1 Samples from gang of ten wells near Paw-tucket Boulevard.
9478	Oct. 3	4	None.	None.	0.0	None.	None.	4.80	.....	.....	.0000	.0000	.....	.....	.32	.0800	.0001	2.3	.....	.....
9485																					

Ten more wells were driven at a distance of about 200 feet apart, to see if the same water bearing stratum existed all over this locality and there was found to be a very good water bearing stratum at every place tested. These wells were pumped by hand and the yield of each recorded; the smallest yield was 45 gallons, and the largest 80 gallons per minute. The season has been very favorable to this work as it has been very dry, and the springs have been very low.

All the tests have been very thorough and are very satisfactory, showing a good quantity of water obtainable from this location. Just how near the first plant, water could be obtained without getting iron in it, could be found only by driving wells in that direction, and pumping them for a time by steam, as no iron appears when a well is pumped by hand.

If your board should think best to get part of its supply from this locality, it would be necessary to lay a conduit main from the Filter Gallery to this place, a distance of about 7900 feet, then place a pumping plant here and pump the water through the main into the Filter Gallery or into the river inlet chamber, and from there it would flow to the present Engine House on West Sixth street.

THIRD LOCATION.

Land near junction of Merrimack River and Beaver Brook on land owned by the estate of Henry Emery.

At this place a line of nine wells was driven at distances varying from 100 to 300 feet apart, across

what looked to be the best part of the land for our purpose with the following results:

Well No. 1	Depth 6 feet	driven to rock,	yield 0 per minute.
Well No. 2	Depth 6.5 feet	driven to rock,	yield 0 per minute.
Well No. 3	Depth 11.6 feet	driven to rock,	yield 0 per minute.
Well No. 4	Depth 14.6 feet	driven to rock,	yield 0 per minute.
Well No. 5	Depth 18.9 feet	driven to rock,	yield 3 per minute.
Well No. 6	Depth 18.11 feet	driven to rock,	yield 0 per minute.
Well No. 7	Depth 17.9 feet	driven to rock,	yield 0 per minute.
Well No. 8	Depth 19.2 feet	driven to rock,	yield 0 per minute.
Well No. 9	Depth 23.7 feet	driven to rock,	yield 16 per minute.

These wells show that there is no water bearing stratum of sand or gravel under the land; the water falling upon this ground runs off on the surface which is quite wet.

FOURTH LOCATION.

Land south of Plain Street on both sides of River Meadow Brook, on land owned by the City of Lowell and used as a City Farm. The first well driven here was located on the east side of the brook and east of the city land.

The record of the yield of this well at the different depths as it was driven is as follows:

Well 15 feet deep	yield 1 gallon per minute.
Well 20 feet deep	yield 4 gallons per minute.
Well 25 feet deep	yield 18 gallons per minute.
Well 28 feet deep	yield 25 gallons per minute.
Well 30 feet deep	yield 18 gallons per minute.
Well 33 feet deep	yield 7 gallons per minute.
Well 35 feet deep	yield 12 gallons per minute.
Well 37 feet deep	yield 25 gallons per minute.
Well 39 feet deep	yield 40 gallons per minute.
Well 41 feet deep	yield 50 gallons per minute.
Well 43 feet deep	yield 52 gallons per minute.
Well 45 feet deep	yield 56 gallons per minute.
Well 46 feet deep	yield 42 gallons per minute.
Well 50 feet deep	yield 30 gallons per minute.
Well 53 feet deep	yield 21 gallons per minute.
Well 55 feet deep	yield 0 gallons per minute.

From the depth of 55 feet this well was pulled up to a depth of 45 feet and yielded 55 gallons per minute; after being pumped one day by hand yielded 70 gallons per minute.

The analysis from this well is as follows:

COMMONWEALTH OF MASSACHUSETTS, }
STATE BOARD OF HEALTH. }

WATER ANALYSIS—(Parts in 100,000.)

No. 9430. Date of collection September 23. Date of examination September 24.

Color.....	0.0
Appearance Turbidity.....	None.
Sediment.....	Very slight.
Odor.....	None.
Residue on evaporation.....	5.05
Free Ammonia .....	.0000
Albuminoid Ammonia.....	.0000
Chlorine.....	.28
Nitrogen as Nitrates.....	.0700
Nitrogen as Nitrites.....	.0000
Hardness.....	1.4
Iron.....	.0125

Fifteen wells have been driven upon the City Farm land, extending along the brook on either side for a distance of about 1400 feet; some are near the brook, but most of them are quite a distance from it. Their location is shown upon the accompanying map. The following table shows the depth of the wells, and also their yield when pumped by hand:—

CITY FARM WELLS.

DEPTH.

WELL NO.	FEET. INCHES.	
	FEET.	INCHES.
1 Driven.	39	3 yield 50 gallons per minute.
2 Driven.	64	yield 50 gallons. Strainer broken off.
3 Driven.	63	3 could not drive lower. Pulled up.
4 Driven.	30	struck boulder. Pulled up.
5 Driven.	39	yield 70 gallons per minute.

6	Driven.	48	yield 55 gallons per minute.
7	Driven.	40	could not drive lower. Pulled up.
8	Driven.	36	used as test well.
9	Washed.	33	yield 42 gallons per minute.
10	Washed.	31	yield 52 gallons per minute.
			yield with ejector 80 gallons per min.
11	Washed and driven.	38	yield with hand pump 60 gals. per min.
12	Washed and driven.	34	9 yield 70 gallons per minute.
13	Washed and driven.	35	6 yield 70 gallons per minute.
14	Washed and driven.	35	8 yield 70 gallons per minute.
15	Washed and driven.	39	yield 70 gallons per minute.

A gang of seven wells has been made here by connecting wells Nos. 5, 9, 10, 11, 12, 13, 14 together, and they have been pumped by steam as follows:—

Gang of six, run 9 hours 24 minutes, total gallons pumped, 146,706. Average yield per minute, 260 gallons; average per well, 43 gallons.

Gang of seven, run 18 hours 36 minutes, total gallons pumped, 291,997. Average yield per minute, 262 gallons; average per well, 37.4 gallons.

Continuous run of 73 hours 44 minutes, total gallons pumped, 1,353,989.

Average yield per day of 24 hours, 440,640 gallons.

Average pumping per minute, 306 gallons.

Average per well per minute, 43.7 gallons.

The chemical analysis of water from this plant is as follows:—



Sketch Showing Wells at City Farm, Lowell, Mass.

(The blue tint shows land owned by City.)

Commonwealth of Massachusetts.—State Board of Health.
WATER ANALYSIS. (Parts in 100,000.)

No.	DATE OF		APPEARANCE.			ODOR.		RESIDUE ON EVAPORATION.			AMMONIA.			Chlorine.	NITROGEN, AS		Hardness.	Iron.	Manganese.	REMARKS.
	Collection.	Examination	Turbidity.	Sediment.	Color.	Cold.	Hot.	Total.	Loss on Ignition.	Fixed.	Free.	Total.	In So- lution.	In Sus- pension.	Nitrates.	Nitrites.				
	1892.	1892.																		
9597	Oct. 31.	Nov. 1	None.	None.	0.0	None.	None.	7.25			.0000	.0000			.1100	.0000	3.0'	.0020		
* 9650	Nov. 9	Nov. 10	None.	None.	0.0	None.	None.	7.25			.0000	.0000			.1100	.0000	3.4	.0000		
9664	Nov. 12	Nov. 14	None.	None.	0.0	None.	None.	7.60			.0000	.0000			.1200	.0000	3.7	.0000		

From seven wells at Poor Farm.

I herewith submit a brief report on the biological examination of ground water from the Poor Farm location, together with results drawn from examination of waters taken at different points at the same time and showing comparative quality of Merrimack River water.

STATE BOARD OF HEALTH.

Bacterial Examination of Water, Nov. 15, 1892.

Chemical Number.	Bacterial Number.	DATE AND HOUR OF		Bacteria per c. c. (Gelatine.)	Molds per c. c. (Gelatine.)
		Collection.	Planting.		
		Nov. 12, 1892.	Nov. 12, 1892.		
	1086	12 25 P. M.	6 P. M.	1934	0
	1089	11.45 A. M.	6 P. M.	2030	0
	1082	11.40 A. M.	6 P. M.	782	0
	1083	10.45 A. M.	6 P. M.	138	0
	1080	12.20 P. M.	6 P. M.	156	0
	1090	10.15 A. M.	6 P. M.	Plate I 2 Plate II 0	0
	1081	10.56 A. M.	6 P. M.	Plate I 2 Plate II 0	0
	1085	12.55 P. M.	6 P. M.	Plate I 1 Plate II 0	0
	1088	1.25 P. M.	6 P. M.	Plate I 2 Plate II 0	0
	1087	1.45 P. M.	6 P. M.	Plate I 1 Plate II 0	0

No. 1086—Merrimack River—Sample from boat above In-take.

No. 1089—Inlet of Low Service Reservoir. Not pumping. The number of bacteria per c.c. is practically identical with the number in the river.

No. 1082—Outlet—Low Service Reservoir.

No. 1083—Kitchen tap—City Farm.

No. 1080—Gate House Inlet. Not pumping. The low number of bacteria shown here is possibly due to the fact that water from the filter gallery, as the pumps were at rest, was really collected, instead of water from the river In-take.

No. 1090—Driven wells at City Farm after 15 hours of continuous pumping.

No. 1081—Driven wells at City Farm, at 10.56 A. M.

No. 1085—Driven wells at City Farm after 17 hours of continuous pumping.

No. 1088—Driven wells at City Farm after 18 hours of continuous pumping.

No. 1087—Driven wells at City Farm at 1.45 P. M.

All samples grown in gelatine for 48 hours at 19°-23° C.

By A. P. MATHEWS.

Miquel, who has for many years made bacteriological observations upon the drinking water of Paris, divides water for convenience into the following classes:

Water excessively pure contains from 0 to 10 bacteria in a c. c.

Water very pure contains from 10 to 100 bacteria in a c. c.

Water pure contains from 100 to 1000 bacteria in a c. c.

Water mediocre contains from 1000 to 10,000 bacteria in a c. c.

Water impure contains from 10,000 to 100,000 bacteria in a c. c.

Water very impure contains from 100,000 upwards bacteria in a c. c.

This division, though somewhat arbitrary, represents very well the facts as obtained in the water supplies more or less carefully investigated.

RECOMMENDATION.

The above table shows conclusively that there is a large quantity of water obtainable at this location and the chemical analysis shows it to be of good quality. I would therefore recommend that the City take immediate steps to secure a part at least of its supply from this place.

At the intersection of Chelmsford and Powell Streets, the Chelmsford Street twelve inch water main and the Powell Street eight inch water main meet, and at this point a twelve inch pipe could be laid through Plain and Tanner Streets to connect with the twelve inch main in Lincoln Street. A pipe could also be laid through Parker or some other street running to Stevens Street and connect with the pipe in that street, giving that part of the City a much better supply in case of fire.

This would make a good distribution for a force main laid from a pumping station located on the City Farm to the junction of Powell and Chelmsford Streets as before described.

The length of the force main would be very short not over 2200 feet and all the rest of the pipe would be used to supply water to consumers.

This plan would be very inexpensive and would meet a want long felt in this part of the City, and which is greater every day as a large quantity of water is called for at this long distance from the supply. The pipes after leaving the junction of Powell and Chelmsford Streets would immediately connect with the gridiron of City pipe, giving the City the benefit of two sources of supply, and in case of a great draught double the quantity of water could be supplied, as the pipes would have the benefit of water coming from two directions. If a supply of 5,000,000 gallons was obtained from this source, it would give the water in the reservoir much more time to settle, and thereby greatly improve it, and allow most of the water pumped at the West Sixth Street pumping station to be filtered.

In view of the good results obtained at the City Farm plant and the great advantage of having an additional supply in this part of the City, I would recommend that a plant of driven wells of the number and capacity required for obtaining at least 5,000,000 gallons per day (of 24 hours) be contracted for and a pumping station built here where the water can be pumped directly into the City Mains as above described.

By adopting a suggestion of Prof. Shaler, this might be done very quickly by building a temporary engine house and putting in one or two temporary pumps of sufficient capacity for pumping 5,000,000 gallons as an experiment before building a permanent plant.

In the future without doubt it would be better to build a stand pipe in this part of the City so as to get this additional supply when the pumps are not running.

An approximate estimate of the cost of a temporary plant is as follows:

Force main and new distribution pipes . . .	\$17,000
Engine and foundation	14,000
Boilers and foundation	5,000
Buildings	3,000
Land and land damages	10,000
Engineering, etc., 15 per cent.	7,350
	<hr/>
	\$56,350

The cost of driving the wells and connecting them ready to pump will vary very much according to the method used. Bids would probably run from \$25,000 to \$50,000; say for an estimate \$37,500, making a total of \$93,850.

In closing I wish to thank the President and members of the Water Board for their uniform kindness to me and readiness in providing everything necessary to carry on this work.

Respectfully submitted,

GEORGE BOWERS,

City Engineer.

CAMBRIDGE, MASS., NOV. 24, 1892.

CHARLES L. KNAPP, ESQ.,

Secretary Water Board,

Lowell, Mass.

MY DEAR SIR :

I have read the report of the City Engineer of Lowell, dated Nov. 17th, with much interest. I am glad to find that the explorations in the River Meadow Brook district give as I supposed they would, promise of a considerable supply of pure water. I have no doubt that that field is the best of all those near your city in which to begin your proposed work.

The exact quantity of water which can be obtained from the valley of River Meadow Brook cannot be determined without a practical test by driving and pumping wells; there seems to me, however, good reason for believing that the amount of water so obtained will abundantly justify the proposed expenses provided the work be done at the least possible cost in the way of permanent plant. In case a sufficient amount for the needs of your people cannot be obtained from this field, you can supplement it by other wells on the north bank of the Merrimack.

As I have before suggested, all this effort to obtain underground water should be carried on with the understanding that before many years it may prove desirable to filter a supply obtained from the river.

If I were a citizen of Lowell, and a large taxpayer, I should urge your authorities at once to obtain a sufficient supply of ground water for the needs of the people. I am not disposed to be an alarmist, but it is clearly the duty of every citizen to ask for precaution against the visitation of Asiatic Cholera which we are likely to have next year. Moreover, the constant menace of epidemics of typhoid fever to which you are subjected warrants a considerable expenditure for measures of prevention.

It will, of course, be understood that I have no opinion to offer concerning the estimated cost of the proposed work. I can only say that my acquaintance with your City Engineer has convinced me that he is an able and judicious man.

Yours very truly,

(Signed) N. S. SHALER.

ANNUAL REPORT
OF THE
OVERSEERS OF THE POOR,
WITH ACCOMPANYING PAPERS,
OF THE
CITY OF LOWELL,
FOR THE YEAR 1892.



LOWELL, MASS.
LOWELL COURIER PUBLISHING COMPANY.

1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, March 7, 1893.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD,

City Clerk.

IN COMMON COUNCIL, March 14, 1893.

Received and ordered on file in concurrence.

FRANK J. SIMONDS,

Clerk.

REPORT OF THE SECRETARY
OF THE
OVERSEERS OF THE POOR.

LOWELL, Jan. 31, 1893.

To the Board of Overseers of the Poor:—

GENTLEMEN:—I have the honor to submit the following report of the administration of the Secretary's office for the year 1892.

TEMPORARY AID.

During the year temporary aid, consisting of wood, coal, provisions, and orders, has been given to 475 families, comprising 1644 persons, 730 males and 914 females. Of this number 464 were state paupers, and 174 were paupers of other cities and towns, leaving 1006 persons aided who have a settlement in Lowell.

The value of above aid was \$5,895.03. Of this amount \$853.71 was reimbursed by the commonwealth and cities and towns, leaving \$5,041.32 as the net amount expended for our own poor as partial support at their homes. In addition to the above the sum of \$2,015.93 has been paid as cash allowances. Reimbursed \$271.80, making a total of \$6,785.45 expended for paupers of Lowell under this head.

SOLDIERS' RELIEF.

The number of veterans, their widows and minor children, assisted in cash, orders, and medicine, under chapter 447, Acts of 1890, was 90; 60 had a settlement in Lowell, 30 in other cities and towns. Total value of above was \$2,522.14, reimbursed \$285.99, leaving \$2,236.14 as the amount allowed to Lowell cases.

HOSPITALS.

The number at the hospitals during the year, for whose board and care this department was responsible, was: at St. John's Hospital 237, at Lowell Hospital 7; total, 244. Of this number 142 were state paupers, 15 were chargeable to cities and towns, and 87 had a settlement in Lowell. Total amount paid for above was \$4,820.05, amount reimbursed \$2,998.27, leaving \$1,821.78 as net expense to the city.

INSANE.

Seventy-four persons were cared for at the state lunatic hospitals at the expense of this city. Of this number 32 have been cured, died, or transferred to our institution, leaving 42 now at the hospitals on expense to the city. Total amount paid for care of above, \$7,053.70.

STATE PAUPERS.

One hundred and seventy-seven paupers were sent to the State Almshouse at Tewksbury, 26 more than in 1891.

BURIALS.

One hundred and seventy-nine orders for burial of deceased paupers were given by this department during the year, 53 more than in 1891.

AMBULANCE.

Six hundred and forty-seven calls were made with the ambulance, 106 more than in 1891, divided as follows: sick 401, accident 175, not used 71.

WOOD YARD.

Two hundred and fifty-nine cords of wood and 128 tons of coal have been delivered to paupers, schools, etc., during the year.

DISPENSARY.

Four thousand two hundred and forty-eight prescriptions were filled during the year. For further details I would refer you to the report of the dispensary physicians.

Respectfully submitted,

CHAS. H. RICHARDSON,

Secretary.

REPORT OF INSTITUTIONS

AT

CITY FARM, LOWELL,

FOR THE YEAR 1892.

Statistical Report

OF THE SUPERINTENDENT AT CITY FARM.

LOWELL, MASS., Dec. 20, 1892.

ALMSHOUSE.

	Males.	Females.	Total.
Remaining Dec. 20th, 1891	111	160	271
Admitted to Dec. 20th, 1892	219	198	417
Whole number for the year .....	...	...	688
Number discharged for the year.	207	189	396
Average for the year.....	...	...	276
Number remaining Dec. 20th, 1892	122	170	292
Births for the year.....	6	11	17
Died in the institutions.....	23	31	54

INSANE.

	Males.	Females.	Total.
Remaining Dec. 20th, 1891.....	29	55	84
Admitted to Dec. 20th, 1892	17	31	48
Whole number for year.....	46	86	132
Discharged.....	19	19	38
Remaining Dec. 20th, 1892.....	30	64	94

WORKHOUSE.

	Males.	Females.	Total.
Number remaining Dec. 20th, 1891.....	137
Committed to Dec. 20th, 1892.....	151	138	289
Discharged during the year.....	316
Remaining Dec. 20th, 1892.....	109
Average for the year.....	108
Whole number for the year.....	426

SCHOOL.

	Males.	Females.	Total.
Remaining Dec. 20th, 1891.....	43
Committed to Dec. 20th, 1892.....	67
Discharged " " "	63
Remaining " " "	45
Average for the year	42
Whole number for the year.....	110

OFFENCES FOR WHICH COMMITTED TO WORKHOUSE.

	Males.	Females.	Total.
Drunkenness.....	229
Common Drunkards.....	41
Vagrants.....	7
Larceny.....	9
Breaking Glass....	1
Assault and Battery.....	1
Escape.....	1
Total.....	289
Total number for the year.....	1224

EXPENDITURES — 1892.

Average number supported at Almshouse.....	276
Average number supported at Workhouse..	108
Average number supported at School.....	42
Total average.....	426
Number whose board was paid..	17
Net average.....	409
Amount of bills paid for all expenses.....	\$55,295 11
Credits for the year.....	13,577 76
Net expense.....	\$41,717 35
Yearly cost.....	102 00
Weekly cost.....	1 96

Respectfully submitted,
 ALBERT PINDER,
Superintendent.

REPORT OF
TEACHER AND CHAPLAIN

OF

INSTITUTIONS, CITY FARM.

1892.

Teacher's Report.

*Gentlemen of the Board of Overseers of the Poor of
Institutions at City Farm, Lowell, Mass.:—*

I present our school-work for your examination for the
year 1892:—

Whole number of pupils instructed.....	179
Pupils attending school Jan. 1, 1892.....	59
Males under sentence.....	41
Females under sentence.....	0
Males not under sentence.....	10
Females not under sentence.....	8
Average monthly attendance.....	63½
Average age under sentence.....	12½
Average age not under sentence.....	8½
Highest number for any one month (December).....	85
Lowest number for any one month (June).....	53
Admitted on sentence.....	68
Males.....	66
Females.....	2
Discharged by expiration of sentence.....	45
Probation.....	2
Pardoned.....	17
Number remaining sentenced.....	46
Whole number attending school at present time.....	74
Males under sentence.....	45
Females under sentence.....	1
Males not under sentence.....	15
Females not under sentence.....	13

NAMES OF CITIES AND TOWNS THAT HAVE MADE ARRANGEMENTS WITH THE OVERSEERS OF THE POOR TO SEND JUVENILE OFFENDERS TO OUR SCHOOL.

Lowell	56
Arlington.....	0
Chelsea.....	5
Waltham	1
Winchester.....	0
Stoneham.....	0
Everett.....	0
Medford	0
Marlboro	0
Somerville	4
Lincoln.....	0
Wakefield.....	0
Malden.....	2
Fitchburg.....	0
Clinton.....	0
Woburn.....	0
Wilmington.....	0
Ayer.....	0
Watertown.....	0

COMMITTED FOR THE FOLLOWING OFFENCES.

Truancy	52
Larceny.....	8
Vagrancy.....	5
Stubbornness.....	2
Disobedience.....	1

NUMBER OF TIMES COMMITTED.

For the first time.....	52
For the second time	10
For the third time.....	6
For the fourth time.....	0

BIRTHPLACE OF THOSE UNDER SENTENCE.

United States.....	53
Ireland.....	6
England.....	4
Canada.....	4
Scotland.....	1

ORPHAN CHILDREN.

Both parents dead.....	4
Father dead.....	10
Mother dead.....	10

Classification of school under my supervision is as follows:—

DEVOTIONAL EXERCISES.

Morning prayer.

IN SPELLING.

In Spelling and Defining, three classes.....	36
Worcester's Spelling-book, two classes.....	38
First class.....	10
Second class.....	28

IN READING.

Franklin Fifth Reader.....	11
New Franklin Fourth Reader.....	9
New Franklin Third Reader.....	18

READ IN HISTORY.

Higginson's History of the United States.....	10
Child's History of the United States.....	29

IN ARITHMETIC.

Bradbury's Eaton's Arithmetic, two classes.....	28
Thompson's Intellectual Arithmetic, three classes.....	31

In Geography, three classes	36
In Drawing, one class.....	18
In Writing, one class.....	40
In Grammar, one class.....	8

STUDY HISTORY.

Higginson's History of the United States	10
Child's History of the United States	29

Classification of department taught by my assistant, Mr. Octave L. Gaudette : —

IN READING.

Franklin Third Reader.....	4
Franklin Second Reader.....	7
Franklin First Reader.....	4
Franklin Primer	6
Monroe's Chart.....	11
In Geography	4
In Arithmetic.....	11
In Drawing and Writing.....	9

DIVISION OF THE TWENTY-FOUR HOURS OF THE DAY.

Rise fall and winter months at.....	6 a. m.
Rise spring and summer months at.....	5 a. m.
Morning Prayer at.....	6.15 a. m.
Breakfast fall and winter months at.....	6.30 a. m.
Breakfast spring and winter months at.....	5.30 a. m.
Recess	
School from	8.30 to 11.30 a. m.
Recess.....	
Dinner	12 m.
Recess.....	
School from	1.30 to 3.30 p. m.
Recreation.....	
Supper followed by recess	5.30 p. m.
Evening Prayer and hour for retiring.....	7.15 p. m.

Religious services have been held regularly on Sunday during the year.

Our boys have shown a good degree of interest in their studies, and have made fair improvement.

We have done our usual amount of work about the farm and garden.

We offer our thanks to the Board of Overseers and to the Superintendent and wife for aid and kindly sympathy.

We praise the dear Lord for the kindly way He has led us through the year.

Respectfully submitted,

WM. A. LANG,

Teacher and Chaplain.

ANNUAL REPORT
OF THE
CITY DISPENSARY,
1892.

Secretary's Report.

LOWELL, Feb. 5, 1893.

To the Overseers of the Poor:—

GENTLEMEN:—The physicians of the City Dispensary present to you their report for the year 1892.

The Dispensary was organized February 1, 1892, as follows: Dr. John J. Colton, chairman; Dr. Chas. H. Ricker, secretary; Drs. C. A. Viles, C. P. Spaulding, W. A. Johnson, T. E. McOwen, A. E. Gillard, W. G. Eaton, J. F. Sullivan, C. M. Frye, J. E. Mulcahy, and A. J. Halpin.

During the year Drs. Viles, Frye, Spaulding, Gillard, Grady, and McOwen resigned, leaving six vacancies in the staff. Drs. Grady and L. J. McDonough were appointed to fill vacancies.

The staff have attended to their duties faithfully and well during the past year.

The whole number of patients treated at the Dispensary during the year was four hundred and sixty-two (462).

Diagnosis was given in three hundred and ninety-four (394) cases.

The following table shows the diseases treated, and the number of each disease:—

Abscess.....	4
Adenitis.....	3
Alcoholism.....	1
Asthma.....	3

Amenorrhœa.....	2
Accident.....	3
Anæmia.....	3
Bright's Disease.....	2
Bronchitis.....	62
Burn.....	1
Chills.....	1
Convulsions.....	1
Conjunctivitis.....	2
Cancer of Vagina.....	1
Cephalgia.....	1
Constipation.....	8
Cystitis.....	4
Cholera Infantum.....	4
Colic.....	2
Catarrh.....	3
Contusion of back.....	1
Contusion of wrist.....	1
Contusion of chest.....	1
Contusion of fore-arm.....	6
Dislocation of thumb.....	1
Dislocation of shoulder.....	4
Diarrhœa.....	6
Debility.....	30
Dyspepsia.....	27
Diphtheria.....	1
Diagnosis not made.....	58
Eczema.....	6
Erysipelas.....	1
Furuncle.....	1
Fracture of rib.....	4
Fracture of clavicle.....	1
Fracture of humerus.....	1
Gleet.....	1
Gonorrhœa.....	9
Hemorrhoids.....	4
Herpes.....	1

Heart, Disease of.....	3
Hemorrhage.....	1
Insomnia.....	1
Infantile	1
Jaundice	1
Lumbago	1
La Grippe.....	7
Leucorrhœa	2
Myalgia	2
Marasmus.....	1
Menorrhagia	1
Neuralgia.....	4
Neuralgia intercostal	3
Old Age.....	2
Otitis Media.....	1
Otorrhœa	2
Œdema of penis.....	1
Pneumonia.....	1
Paraphimosis.....	1
Poison by ivy.....	1
Poison by dye.....	1
Poison by ammonia.....	2
Poison by lead.....	4
Psoriasis.....	2
Pleurisy	1
Pleurisy, chronic	2
Rheumatism.....	22
Renal Calculi.....	1
Syncope.....	1
Sprain.....	6
Sprain of ankle.....	4
Syphilis	13
Stomatitis.....	2
Scabies.....	6
Scrofula.....	6
Spermatorrhœa.....	1
Skin, Disease of.....	1

Tonsillitis.....	4
Teeth Extracted	30
Toothache.....	1
Tumor	1
Ulcer.....	16
Ulcer varicose	12
Ulcer of stomach	1
Urticaria.....	16
Uterus, prolapse of.....	1
Vertigo	1
Wounds of scalp.....	2
Wounds incised	6
Worms.....	1

The whole number of prescriptions compounded by the drug clerk was four thousand two hundred and forty-eight (4248).

The nativity of the patients was as follows:—

Ireland	220
Lowell	101
England.....	32
Canada.....	14
Scotland.....	10
New Hampshire.....	9
New York.....	8
Maine.....	12
Massachusetts	27
Pennsylvania	4
Haverhill.....	1
Vermont.....	3
Nova Scotia.....	1
Germany	1
Rhode Island.....	1
Asia Minor	1
Wales.....	1
None given.....	6

The following table shows the occupation of the patients:—

Barber	6
Bill Poster.....	1

Bleacher.....	1
Carder.....	2
Children.....	23
Dress-maker.....	1
Farmer.....	2
Glazier.....	1
"Gentleman" (?).....	1
Housemaids.....	55
Hosiery.....	2
Harness-maker.....	1
Junk.....	6
Laborer.....	70
Mason.....	3
Mill.....	28
Moulder.....	4
Machinist.....	2
Operatives.....	128
Painters.....	10
School children.....	9
Slater.....	1
Spinner.....	4
Shuttle-maker.....	1
Shoe-maker.....	1
Scrub-women.....	3
Tramp.....	1
Teamster.....	1
Weaver.....	24
Wash-women.....	2
None given.....	48

The following will show the number of prescriptions compounded at the Dispensary from its introduction to the present time :—

1880.....	3,585	prescriptions
1881.....	4,870	"
1882.....	4,027	"
1883.....	5,562	"
1884.....	5,806	"

1885	8,190	prescriptions .
1886	4,486	“
1887	6,720	“
1888	7,185	“
1889	7,837	“
1890	7,084	“
1891	11,470	“
1892	4,248	“

The patients have been gradually decreasing so now most of them are the ones who receive other aid than medical from the city. The patients who formerly received only medical aid now apply to the Out-Patient Department of St. John's and the Corporation Hospitals. In conclusion we would offer the following suggestions : —

As the Dispensary is soon to be removed to new and more commodious quarters in the new City Hall we would recommend that the Dispensary would be kept open at least two hours in the evening. Our reasons for that are, that a great many patients are visited late in the afternoon by their physicians, and they are unable to get their medicine until the following morning ; secondly, we would recommend the purchasing of a complete line of surgical instruments ; thirdly, a stationary galvanic battery.

We would extend our thanks to your honorable board and to the Dispensary Committee, Messrs. Nolan, Gookin, and Marren, for favors received.

We would also extend our thanks to Mr. J. W. Leach, the efficient drug clerk, for his kindness and courtesy during the past year.

All of which is respectfully submitted.

CHAS. H. RICKER,

Secretary.



ANNUAL REPORT
OF THE
Births, Marriages and Deaths
OF THE
CITY OF LOWELL,
FOR THE YEAR 1892.



LOWELL, MASS.:
MORNING MAIL PRINT, 147 CENTRAL STREET.
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, March 21, 1893.

Received and ordered on file; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, March 28, 1893.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk*.

REPORT OF THE CITY CLERK.

CITY OF LOWELL,
CITY CLERK'S OFFICE, March 21, 1893.

To the City Council:—

GENTLEMEN—I have the honor to present the Annual Report of Births, Marriages and Deaths for the City of Lowell, for the year 1892.

BIRTHS.

The total number of births returned and recorded for the year 1892 was 2,741; males, 1,422; females, 1,319; an increase over the number returned and recorded for the year 1891, of 531, an increase of 272 in the number of males, and 259 in the number of females. Of the entire number returned and recorded, 108 were born elsewhere than in Lowell, but were found by our enumerators and returned according to law. There were also returned by the clerks of various towns and cities, the names of 7 children born in Lowell, but who were found by their canvassers.

Number of Births, Parentage, etc., by Wards.

WARDS.	One.	Two.	Three.	Four.	Five.	Six.	Total.
Whole No.....	346	400	544	420	749	275	2734
Males.....	197	203	292	199	384	143	1418
Females.....	149	197	252	221	365	132	1316
Born of American parents . . .	25	75	131	109	79	63	482
Born of Foreign parents.....	273	226	299	240	584	152	1774
American father and Foreign mother.....	30	54	62	31	38	30	245
Foreign father and American mother.....	17	44	49	37	46	29	222
Parents nationality unknown....	1	1	3	3	2	1	11
Twins.....	5	3	5	0	6	3	22
Triplets.....	0	0	1	1	0	0	2
Illegitimate.....	1	2	4	0	1	4	12
Colored	0	0	0	1	2	0	3

Of the seven children born of Lowell parents, now residing abroad, four were males and three females.

MARRIAGES.

Ten hundred and one intentions of marriage were recorded and certificates issued in 1892, an increase of twenty-eight from the figures of 1891.

The total number of marriages returned and recorded for the year 1892, was nine hundred and ninety-seven, an increase of ten over 1891. Of this number nine hundred and forty-one were solemnized in Lowell and fifty-six elsewhere.

Total number of marriages in each month in 1892 :

January, 61	April, 65	July, 66	Oct., 110
February, 95	May, 90	Aug., 83	Nov., 106
March, 40	June, 117	Sept., 96	Dec., 68

Oldest couple married, 71-70; youngest couple married, 17-16; oldest person married, 71; youngest person married, 16; grooms under twenty-one years of age, 30; brides under eighteen years of age, 27.

Nationality of contracting parties:

	Grooms.	Brides.		Grooms.	Brides.
United States	431	410	Scotland.....	13	8
Canada	237	250	Sweden.....	13	14
Ireland	137	164	Other countries.....	22	18
England	84	60	Unknown.....	1	1
British Provinces ...	59	72			

DEATHS.

The total number of deaths recorded in the year 1892, was 2,228, an increase of 52 over 1891.

Total number of males, 1,096.

Total number of females, 1,132.

Number died between 80 and 90 years of age, 62.

Number died over 90 years of age, 14.

Oldest person died, 97.

For further information relative to deaths, see report of the Board of Health.

REMARKS AND SUGGESTIONS.

The proper registration of births, marriages and deaths is one of much importance and has been the subject of much legislation. The returns of marriages and deaths in Lowell are as nearly perfect as possible. As much cannot be said of the returns of births. During the year 1891, my attention was often called to the imperfect registration of births of preceding years. Many

persons who claimed to have been born in Lowell came to the City Clerk's office seeking certificates of the record of their births. An examination of the books in many cases failed to discover such record. A comparison of the returns of births made by physicians, with the returns of the canvassers annually appointed, disclosed the fact that not more than one-third of the births occurring in the city had been reported by the physicians. Desiring to remedy this condition of affairs, in the month of January, 1892, I caused a notice to be printed in the various newspapers of the city, in accordance with law, stating that the City Clerk was prepared to furnish blanks for return of births to physicians and midwives upon application. I also caused to be sent, in the closing week of each month, blank returns to every physician whose name could be found in the City Directory. This caused many of the physicians who had been negligent, to present returns of births happening in their practice. Some of the physicians excused themselves for not sending in returns previously by saying that as the children were not named they did not think the returns would be of any use. To such I answered that if they would give me all of the facts required by law, except the name of the child, I would undertake to find that. In such cases postal cards were sent to the parents of the children asking them to send in the name of their child, and such requests were mostly answered. As a result of these efforts the returns from physicians and midwives aggregated, for the year 1892, about eighteen hundred as against about eight hundred in any preceding year.

In the month of January, of each year, canvassers are appointed by the City Clerk, for each ward, and their returns in many cases conflict with the returns of the physicians, and it becomes a difficult task to ascertain, in every case, which is the correct return. When there is a decided difference in the returns, both are placed in the hands of the canvassers, and he is required to make another canvass and ascertain the truth.

I have gone into details upon the methods of registration pursued in 1892, for the purpose of impressing upon your minds the difficulty of making an accurate and complete registration of births. I would recommend that some provision be made by the City Council by which all midwives, not regular physicians, should be registered at the office of the City Clerk. I have reason to believe that there are a number of midwives practicing in this city who never return any record of births, and who are ignorant that such returns must be made. In the month of September, 1892, Mrs. Mary Noel, a midwife, learning through the public press of the efforts being made to obtain a thorough record of births, brought to the City Clerk's office the names of 150 children at whose births she had attended during the period of time from Jan. 1, 1892, to Sept. 8, 1892, and informed us that she had never known that births must be returned. During the eleven years that she had practiced in Lowell, she had attended more than 900 births, and those were the first she had reported. The system of appointing annual canvassers is, in my judgment, altogether wrong. There should be a permanent canvasser, whose duty it

should be to visit every physician and midwife in the city every month, and get from them a record of every birth occurring in their practice, and then visiting the parents of the child to verify such record. Such canvasser should be sworn to the faithful performance of his duties. With a proper person in such a position, the records could, I think, be made complete and accurate. Of course some cases where neither physician nor midwife is called might escape registration, though a good canvasser would be able to discover most of such cases. Under the system of appointing ward canvassers annually, it is impossible to secure good canvassers in all cases. They should be fair penmen, good spellers, and persons of good address, and such persons cannot always be obtained on short notice, especially where the remuneration is not great. A permanent canvasser would not be much more expensive, because while the physician could collect twenty-five cents for each birth reported then, as now, I believe the majority of them would be well pleased to forego the fee to be relieved of the duty of sending in returns. We have now a system which costs considerable money and yields unsatisfactory returns. Something in the line of the suggestions herein contained must be done if perfect records are ever to be obtained.

Copies of the record of births, marriages and deaths have been sent to the Secretary of the Commonwealth, as required by law.

Respectfully submitted,

MICHAEL J. DOWD, *City Clerk.*

FIFTEENTH

ANNUAL REPORT

OF THE

BOARD OF HEALTH,

OF THE

CITY OF LOWELL,

FOR THE YEAR 1892.



LOWELL, MASS.:

THE LOWELL SUN JOB PRINT.

1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, Feb. 3, 1893.

Received and ordered on file; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk.*

IN COMMON COUNCIL, Feb. 7, 1893.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk.*

TABLE OF CONTENTS.

Membership and Organization	6
Growth of the Department	6
Nuisances	8
Vault Cleaning	8
Removal of Vaults	10
Ashes	19
Swill	20
Disposal of Swill and Garbage	20
Cremation of Garbage	27
Plumbing	39
Inspection of Milk	41
Bath House	42
Contagious Diseases	42
Diphtheria	43
Measles	48
Scarlet Fever	48
Typhoid Fever	49
Cholera Infantum	54
Vital Statistics	54
Nativity of Descendants and of Parents	54
Place of Death and Interment	55
Deaths Classified	56
Deaths in 1892	57
Death Rate 1892	57
Financial Statement	58
Schedule of Property	60
Membership of Board Since its Establishment	62

BOARD OF HEALTH.

1892.

CHARLES R. COSTELLO, *Chairman.*

JAMES B. FIELD, M. D., *Secretary.*

WM. P. LAWLER, M. D., *City Physician.*

HEALTH DEPARTMENT OFFICERS.

H. H. KNAPP, *Agent and Superintendent.*

F. A. BATES, *Foreman.*

STEPHEN GARRITY, }
JOSEPH MACK, } *Inspectors.*

THOS. O. ALLEN, *Inspector of Milk, Vinegar and Provisions.*

REPORT.

LOWELL, MASS., JAN. 30, 1893.

To the Honorable the Mayor and City Council of the City of Lowell:
Gentlemen—

The Board of Health respectfully submits its fifteenth annual report, concerning the operations of the Health Department for the past year, together with a statement of the receipts and expenditures of the Department from Jan. 1, 1892 to Jan. 1, 1893.

MEMBERSHIP AND ORGANIZATION.

In January 1892 Dr. James B. Field was reappointed, so that there has been no change in the Board for the last two years, and as required by law it organized on the first Monday in February by the selection of Charles R. Costello as Chairman, and Dr. James B. Field as Secretary. Horace H. Knapp was re-elected Agent and Superintendent.

GROWTH OF THE DEPARTMENT.

The extension of the city limits, the increase in population, and the nervous feeling caused by the appearance of cholera in New York City, has added somewhat to the working force of the Department in its relation to the cleaning of the streets and alleys, and the collection of ashes and garbage, but for the purpose of proper sanitary inspection the city should be divided into at least two sanitary districts. Each district should be placed in charge of a sanitary inspector having police powers, and whose duty should be to report and examine all nuisances and violations of the sanitary code and perform such other duties as may be intrusted to him, the inspection of complaints being both those examined and reported by himself, and all other complaints from all sources which are reported to the office. He should also commence a house-to-house inspection in his

district, so that an accurate transcript of the results may be made a matter of official record at the office of the Board. As it is the opinion of the Board that if a thorough examination of all tenement houses were made and all the existing unhealthy conditions remedied, the mortality rate would be reduced, and it would conform to the suggestion of the President of the American Public Health Association to local Health Boards.

“The health officer of a place should have in his possession a brief description, from a sanitary point of view, of every premises in a city, and a person proposing to buy or rent a dwelling house ought to be able, on a payment of a proper fee, to obtain a certified copy of the sanitary history of the house he proposes to occupy, its connection with sewers, the number and causes of the deaths that have occurred in it, just as much as he is enabled to obtain a record of title.”

In the published address of his Honor Mayor Pickman to the City Conneil, a reference is made to one portion of the city, which calls for some explanation from the Board. From a knowledge of its condition, covering years of investigation and improvement, the Board is of the opinion that there are other portions of the city more to be feared as disease breeding localities than Little Canada. It is well sewered, has but three vaults in the entire section, and those have been ordered out by the Board.

In co-operation with Col. Francis, the Board have this year inspected every house, and ordered changes where it was deemed advisable, and the Board desire to express their thanks to the Locks & Canals Co. for their efforts to make the place as healthy and comfortable as the circumstances will permit. The only fault to remedy is the overcrowding of some of the tenements, and that question is under consideration by the Board.

They also wish to call to the attention of the other corporations, the action of Agent Thomas, of the Tremont & Suffolk Mills, in that he has had a very thorough and satisfactory investigation made of every tenement, and a detailed report left at this office of the results, covering the conditions of every sink, water-closet, cellar, cesspool,

and condition and method of disposal of swill. It is a very elaborate and comprehensive document and will serve as a model for similar work in this department.

The ability of populations to protect themselves from preventable diseases is necessarily in some degree dependent upon economic considerations. From the imperfect knowledge we have so far reached there exists a not unnatural desire on the part of many to postpone taking a costly procedure, until the course which may be best adopted is well defined. Nevertheless, as the result of the efforts of enterprising communities there is an accumulation of valuable experience in reference to such questions as methods of removing and destroying waste matters, ready to be utilized by the Health Department in advising the city they serve, and although the lessons learned by the investigator are not always immediately applicable for the administration of the sanitary authority, they provide a basis for further inquiry by those employed in the public service, and indicate the points which they should observe in their future study. The Lowell Board of Health, after three years effort to get the City Council to appropriate a sum sufficient to erect a Cremating Furnace, have finally succeeded in overcoming opposition, and the plan is now in running order.

We have also asked for an appropriation to build a stable, which is absolutely necessary to house the horses and wagons that are used to carry on the work of the department, but owing to the influence of some officials who are continually croaking about what they call the unnecessary and burdensome expense of the Health Department, no appropriation for a stable has been passed.

All the larger cities have learned from experience that money judiciously expended in maintenance of the public health is returned every year with a hundred fold interest. One epidemic will cost more than your Health Department will cost in fifty years.

The Board have seen a disposition in some of the newspapers to spread before the public the details of every case of destitution and squalor that comes to the notice of their reporters, always ending by

calling the attention of the Board to the case, as one for their investigation. In every case the agents of the Board have been aware of the condition of the property, and of the persons described, before they were laid before the public in all their disgusting details.

The Board cannot see any advantage to any one in publishing the many pitiable sights that come under the notice of its Inspectors, and they desire to say that the papers or individuals who see anything they think should be abated or improved, can rely upon having it done by a request at the office, and their request treated as a confidential communication, and they feel sure that no citizen has ever made complaint that was not thoroughly investigated and impartially acted upon, if it was within the jurisdiction of the department.

NUISANCES.

Privy vaults full, notified to remove contents	228
Privy vaults removed and discontinued	334
Privies filthy, ordered cleaned	9
Privies, contents removed	1,423
Water closets, foul and offensive	51
“ “ insufficient water supply	57
“ “ out of repair	5
Sinks not trapped	63
Waste pipes of improper material	11
Defective drainage	44
Filthy premises	106
Swine on premises	5
Dead animals removed	1,470
Glandered horses killed	11
Houses vacated	4
Houses disinfected after contagious disease	403
Plumbing inspected and approved	285
Visits made to houses (contagious diseases)	774

VAULT CLEANING.

This work has been done by Fred. A. Fox and Thomas F. Fay, and so far as the latter is concerned, not to the satisfaction of the Board.

Rule 3 of the Regulations concerning Privy Vaults, reads as follows:

"No privy vault shall be opened without permission of the Board of Health, nor in any other mode, nor any other time than such as the Board of Health may direct."

The records of the Board contain the following:

September 13, 1892.

"VOTED, that no more permits to open vaults be granted to Thomas F. Fay, and that Agent Knapp be instructed to prosecute Fay or such of his agents as have opened vaults without a permit."

September 16, 1892.

"Thos. F. and Joseph Fay appeared before the Board at a hearing asked for by them relative to the charge of opening vaults without a permit.

"Nos. 38-40 First street. Sept. 10, F. A. Fox received order to clean vault and went there, Sept. 13, found Fay's hose attached to pump with other end in vault, half cleaned and had been there in that condition since the morning of the 12th. Fay had no permit to clean the vault and was refused because Fox had received a permit previously.

"Mr. Fay stated that he had received an order to clean out vault, but that he had no permit, although he supposed Inspector Mack had given him one for this vault among others.

"Inspector Mack stated that he refused to give Fay a permit and told him of his refusal.

"Vault 17-19 Madison street cleaned by Fay, Sept. 3, (Labor Day), without a permit. Fay went to Inspector Mack's house and a permit was refused.

"Vault 70 Hampshire street cleaned out same day without a permit.

"Inspectors Bates and Mack stated that Mr. Fay told them he did not open the vaults on Hampshire street, (Labor Day), but subsequent investigation proved that he did.

"It was finally admitted by Fay that the Hampshire and Madison street vaults were cleaned out without a permit."

At a meeting of the Board, Sept. 19, it was voted that Thos. F. Fay be refused permission to clean vaults for an indefinite period.

September 27, 1892.

"VOTED, that on and after Oct. 19, Thos. F. Fay be permitted to

clean out vaults, provided that he can make satisfactory arrangements with the agent to conduct all business with him personally."

After Oct. 19th, Thomas F. Fay was allowed to clean out a few vaults, with the understanding that he should attend personally to the business, but the Board from its experience in the past has but little faith that any arrangement will be satisfactory or permanent. Probably the best results could be secured by the city cleaning them with their apparatus and labor, but disposal of the product would take time and care, and a large part now is well taken, and conveyed to a great distance from the city, and intelligently placed upon the largest farm in Middlesex County.

Permits were issued during the year 1892 to clean out privy vaults:

Fred. A. Fox	781
Thomas F. Fay	642
<hr/>	
Total number cleaned	1,423

REMOVAL OF VAULTS.

There has been an unusual amount of work done in this direction during the past year, and it has been done with but little friction.

Of the number ordered removed a few have been postponed for good and sufficient reasons until the spring of 1893, and no prosecutions have been made to accomplish the removal of three hundred and thirty-four (334) vaults.

Vaults discontinued and filled with earth by the voluntary action of the owners during 1891 and 1892:

Nichols Street.....	Ward 4.....	1
Osgood Street.....	" 4.....	1
3 Coral Street.....	" 4.....	1
5 " "	" 4.....	1
15 " "	" 4.....	1
17 " "	" 4.....	1
19 " "	" 4.....	1
27 Hastings Street.....	" 4.....	1
19 Loring Street.....	" 4.....	1

20	Loring Street.....	Ward 4	1
10	Sargent Street.	" 5.....	1
2	Thompson's Court.....	" 4.....	1
$\frac{1}{3}$	New Fletcher Street.....	" 4.....	1
96	Fletcher Street.....	" 5.....	1
124	" "	" 5.....	1
136	" "	" 5.....	1
161	" "	" 5.....	1
27	Lane St.....	" 4.....	1
19	South Hastings Street.....	" 4.....	1
8	Butterfield Street.....	" 5.....	1
30	" "	" 5.....	1
32	" "	" 5.....	1
36	" "	" 5.....	1
41	" "	" 5.....	1
42	" "	" 5.....	1
	Cross Street, (Moran's Yard)	" 5.....	1
100	Cross Street.....	" 5.....	1
163	" "	" 5.....	1
166	" "	" 5.....	1
73	Mt. Vernon Street.....	" 5.....	1
38	" " Street.....	" 5.....	1
	Mt. Vernon, Cor. Pawtucket St	" 5.....	1
4	Mt. Washington Street.....	" 5.....	1
20	Mt. Washington Street.....	" 5.....	1
69	Wannalancit Street.....	" 5.....	1
108	" "	" 5.....	1
125	" "	" 5.....	1
396	Chelmsford Street.....	" 3.....	1
158	" "	" 3.....	1
252	" "	" 3.....	1
256	" "	" 3.....	1
9	Varney Street.....	" 5.....	1
13	Varney "	" 5.....	1
55	Wilder "	" 4.....	1

22 Grove Street.....	Ward 4.....	1
41 " "	" 4.....	1
85 " "	" 4.....	1
93 Walker "	" 5.....	1
131 Walker "	" 5.....	1
5 London "	" 3.....	1
35 " "	" 3.....	1
28 " "	" 3.....	1
33 " "	" 3.....	1
7 Lincoln "	" 3.....	1
10 " "	" 3.....	1
15 " "	" 3.....	1
285 " "	" 3.....	1
287 " "	" 3.....	1
289 " "	" 3.....	1
149 School "	" 5.....	1
135 " "	" 5.....	1
150 " "	" 5.....	1
107 Gorham Street.....	" 3.....	1
145 Gorham "	" 3.....	1
12 and 14 Ash Street.....	" 6.....	1
15 and 17 Ash "	" 6.....	1
5 Willow Street.....	" 6.....	1
9 " "	" 6.....	1
37 " "	" 6.....	1
77 Chapel "	" 3.....	1
135 Chapel "	" 3.....	1
691 Middlesex Street.....	" 4.....	1
889 " "	" 4.....	1
278 " "	" 4.....	1
293 " "	" 4.....	1
22 Merrill Street	" 3.....	1
184 Lawrence Street.....	" 3.....	1
240 " "	" 3.....	1
246 " "	" 3.....	1

17	Auburn Street.....	Ward 3.....	1
	Appleton, Cor. Thorndike St.	" 4.....	1
160	Appleton Street.....	" 4.....	1
9	North Street.....	" 6.....	1
25	North "	" 6.....	1
97	Moore "	" 3.....	1
113	Moore "	" 3.....	1
118	South "	" 3.....	1
53	South "	" 4.....	1
22	Keene "	" 3.....	1
24	Keene "	" 3.....	1
40	Livingston Street	" 3.....	1
124	Union Street.....	" 3.....	1
10 and 12	Union Street.....	" 3.....	1
330	Central Street.....	" 3.....	1
365	" "	" 3.....	1
274	" "	" 3.....	1
317	" "	" 3.....	1
5 and 7	Cady Street.....	" 6.....	1
14	Cady Street.....	" 6.....	1
26 and 28	Cady Street.....	" 6.....	1
	Mill Street.....	" 3.....	6
26	Abbott Street.....	" 3.....	1
40	Hudson Street.....	" 3.....	1
18	Whipple Street.....	" 3.....	1
20	" "	" 3.....	1
26	Wamesit Street.....	" 6.....	1
39	" "	" 3.....	1
41	" "	" 3.....	1
46 and 48	Lawrence Street.....	" 6.....	1
82	Lawrence Street.....	" 6.....	1
84	" "	" 6.....	1
199	" "	" 3.....	1
345	" "	" 3.....	1

144	Broadway Street.....	Ward 5.....	1
231	" "	" 5.....	1
241	" "	" 5.....	1
287	" "	" 5.....	1
301	" "	" 5.....	1
240	" "	" 5.....	1
242	" "	" 5.....	1
339	" "	" 5.....	1
343	" "	" 5.....	1
340	" "	" 5.....	1
322	" "	" 5.....	1
345	" "	" 5.....	1
48	Rock Street.....	" 5.....	1
14	Franklin Street.....	" 5.....	1
50	" "	" 5.....	1
48	" "	" 5.....	1
54	" "	" 5.....	1
27	" "	" 5.....	1
29	" "	" 5.....	1
172	Fletcher Street.....	" 5.....	1
184	" "	" 5.....	1
269	" "	" 5.....	1
205 and 207	Market Street.....	" 5.....	1
113	Salem Street.....	" 5.....	1
8	Decatur Avenue.....	" 5.....	1
16	Jefferson Street.....	" 1.....	1
43	Lewis Street.....	" 1.....	1
142	Worthen Street.....	" 1.....	1
400	Merrimack Street.....	" 5.....	1
404	Merrimack Street.....	" 5.....	1
290 to 310	Merrimack Street....	" 5.....	6
5	Hancock Avenue.....	" 5.....	1
154	Adams Street.....	" 5.....	1
34	" "	" 5.....	1
35	" "	" 5.....	1

77	"	"	Ward 5	1
74	Moody	"	" 1	1
82	"	"	" 1	1
139	"	"	" 1	1
177	"	"	" 1	1
84	Suffolk Street	"	1	1
27	Marion	"	1	1
	Fourth Avenue	"	5	3
	Woodward Avenue	"	5	1
	Mammoth Road	"	5	2
	Third Avenue	"	5	2
	Riverside Street	"	5	2
86	Pawtucket Street	"	5	1
16	Gates Street	"	4	1
12	Daly	"	4	1
41	Arlington Street	"	5	1
	Stevens Street	"	4	1
12	Queen	"	4	1
25	Queen	"	4	1
10, 22 and 108	Smith Street	"	4	3
10 and 17	A Street	"	4	2
	B Street	"	4	2
	C	"	4	1
31	Westford Street	"	4	1
43	"	"	4	1
44	"	"	4	1
82	"	"	4	1
164	"	"	4	1
217	"	"	4	1
218	"	"	4	1
265	"	"	4	1
166	Hale Street	"	3	1
	Railroad Street	"	3	4
13	Powell Street	"	4	1
25	"	"	4	1

29	"	"	Ward 4	1
9, 11 and 45	Lyons Street	"	3	3

Total number vaults discontinued and filled. 209

Vaults discontinued and filled with earth, by order of the Board of Health during 1892 :

25 and 27	Jefferson Street	Ward 1	2
10	Mead Street	" 3	1
$\frac{1}{3}$	" "	" 3	1
13	" "	" 3	1
17	" "	" 3	1
23	" "	" 3	1
19	Whipple Street	" 3	1
25	Whipple "	" 3	1
384	Central "	" 3	1
402	Central "	" 3	1
9	Floyd Street	" 3	1
13	" "	" 3	1
15	" "	" 3	1
27	" "	" 3	1
29	" "	" 3	1
37	" "	" 3	1
38	" "	" 3	1
43	" "	" 3	1
34 and 36	Floyd Street	" 3	1
32	Floyd Street	" 3	1
20 and 22	Floyd Street	" 3	1
14	Floyd Street	" 3	1
10 and 12	Floyd Street	" 3	1
25	Lyons Street	" 3	1
18	Lyons Street	" 3	1
28, 30 and 32	Lyons Street	" 3	3
36	Lyons Street	" 3	1
38	" "	" 3	1

40	"	"	Ward 3	1
42	"	"	" 3	1
44	"	"	" 3	1
63	Crosby Street	"	3	1
77 and 79	Crosby Street	"	3	1
42	Crosby Street	"	3	1
32	"	"	" 3	1
30	"	"	" 3	1
26	"	"	" 3	1
15 and 17	Crosby Street	"	3	1
19	Crosby Street	"	3	1
39	"	"	" 3	1
24	"	"	" 3	1
22	"	"	" 3	1
18	"	"	" 3	1
16	"	"	" 3	1
14	"	"	" 3	1
10	New Street	"	3	1
196 and 198	Gorham Street	"	3	1
20	Kidder Street	"	3	1
12	"	"	" 3	1
5 and 7	"	"	" 3	1
41	"	"	" 3	1
39	"	"	" 3	1
29	"	"	" 3	1
23	"	"	" 3	1
26 and 28	Kidder Street	"	3	1
91	Wilder Street	"	4	1
5 and 7	Kidder "	"	3	2
23	Prospect Street	"	3	1
27	"	"	" 3	1
28	"	"	" 3	1
31	"	"	" 3	1
33	"	"	" 3	1
10 and 13	Oak Street	"	6	2

84 High Street.....	Ward 6.....	1
55 Bartlett Street.....	" 6.....	1
30, 32 and 34 Agawam Street...	" 3.....	3
50 Hanover Street.....	" 1.....	1
58 Union Street.....	" 3.....	1
62 Union Street.....	" 3.....	1
28, 32 and 34 East Pine Street..	" 4	6
23 Hildreth Street.....	" 2.....	1
126, 127 and 132 Coburn Street..	" 2.....	3
50 and 52 Hampshire Street....	" 2.....	2
36 Franklin Street.....	" 5.....	1
74 to 84 Adams Street.....	" 5.....	1
52 Adams Street.....	" 5.....	1
Boot Cotton Mills	" 2.....	16
42 Lewis Street.....	" 1.....	1
7 Lagrange Street.....	" 1.....	1
32 and 34 Marion Street.....	" 1.....	2
7 and 9 James Street	" 5.....	2
28 Summer Street.....	" 3.....	1
Molloy's Court, Summer St..	" 3.....	2
9 and 11 Mead Street.....	" 3.....	1
21 Floyd Street.....	" 3.....	1
35 Crosby Street.....	" 3.....	1
37 Crosby Street.....	" 3.....	1
15 Whipple Street.....	" 3.....	1
8 New Street.....	" 3.....	1
23 Kidder Street.....	" 3.....	1
421 Central Street.....	" 3.....	1
Third Avenue.....	" 5.....	1

125

Vaults removed in 1892:

Ward 1..	16
" 2	22
" 3	136

Ward 4.....	56
“ 5.....	86
“ 6.....	18

Total number vaults removed in 1892.... 334

ASHES.

During the year 1892, twenty one thousand and seventy-nine (21,079) loads of ashes were removed from houses to the various dumping grounds in use :

January.....	1,738
February.....	1,926
March.....	1,932
April.....	2,170
May.....	1,830
June.....	1,536
July.....	1,356
August.....	1,372
September.....	1,503
October.....	1,649
November.....	1,854
December.....	2,213

21,079

Petitions have been received and hearings have been granted to citizens complaining of the odor coming from the dumping grounds used by the department on First, Aiken, Chelmsford Streets and Third Avenue.

The Aiken Street grounds will be relieved the coming year by the removal of the swill house, the Chelmsford and Third Avenue locations have been closed and signs forbidding the deposit of refuse planted in the centre of the grounds.

The First St. dump is the best kept one in the city and a request that special care be taken brought the following reply from the owners :

“ November 10, 1892.

In accordance with your request that the dump be well covered as possible with ashes, on First Street, and that the gate be locked at dark, I have given orders to that effect and shall be glad to hear from you of any neglect on our part to comply with your request.

I return your petition,

Very truly yours,

JAMES FRANCIS, Agent,

Prop's Locks & Canals.”

Two new localities in Ward four are now used by the department for dumping purposes, one on grounds between South Wilder and Lowell Streets, and the right has been given by the French estate to fill land in rear of house on Chelmsford Street. The Board expect ashes will be in demand the coming year as they will be comparatively free from any objectionable refuse.

SWILL.

During the year 1892, twelve thousand nine hundred and sixty (12,960) barrels of swill were collected. One thousand (1,000) barrels were conveyed beyond the city limits and buried. Some nine hundred (900) barrels were burned at the cremator, and the balance was sold to farmers.

The swill house on Aiken Street was discontinued and removed and at present all swill is taken to the cremator on Plain Street and burned.

DISPOSAL OF SWILL AND GARBAGE.

The Board have completed a crematory plant, which they expect will consume the garbage of the city without objectionable odors, and relieve the householders living near the city dumping grounds from what has been a disagreeable nuisance, thereby furnishing them constant and just grounds for complaint to the department. June 6, 1892, the Mayor signed a resolution, passed by the City Council, appropriating eight thousand dollars (\$8,000) for the erection of an Engle Cremator. The Board have made arrangements with the Superintendent of the Locks and Canals Company to erect the plant

on the island immediately to the left of the other side of the Aiken Street bridge, and the land had been surveyed for the purpose. Subsequently on the objection of one of the mill treasurers the right was revoked. It was impracticable to locate further down the river, owing to the congested travel that was constantly increasing over the lower bridge, so that they were obliged to negotiate for some location on the Lowell side of the river. The problem was to secure a place with railroad facilities, as near the geographical centre of the city as possible, in order to save time and reduce cost of teaming, and still not seriously inconvenience a thickly settled portion of the city, especially if there were a large number of homes near the proposed site.

The best location offered was land owned by C. B. Coburn & Co., on the east side of Hale's brook, in rear of the Lowell jail. It was thought by the Board that there would be a reasonable ground for complaint by the residents of Thorndike Street, and the offer was declined. Another site was offered between Lincoln and Chelmsford Streets, by Connors Bros. and, for the same reason, that was declined. The next lot was on Tanner Street owned by E. B. Pierce, and this location was accepted at a price mutually satisfactory, but as upon the signing of the contract a larger sum was demanded the Board refused to negotiate.

Most of the land on both sides of Tanner Street is owned by William H. Whitmore, Woonsocket, R. I. An agent of the Board went to Woonsocket and made an offer for sufficient land to build on either side of the street, the offer was accepted, subject to an arrangement with some bank people who held a mortgage on the property, the transaction to be completed by the owner coming to Lowell the next week, but later a letter was received from him breaking the arrangement made at Woonsocket.

There was still one more section of five lots on the same street owned by Lamson and Thissell, and negotiations were commenced with them which would have been successful if the title to the land had not been a little cloudy.

The Board having now exhausted the possibilities of Tanner Street next examined a lot near the Union Iron Foundry owned by the late Charles D. Starbird, but found it rather small and quite near a group of dwelling houses, so declined it.

They then commenced an examination of Plain Street, which although it increased the distance for teaming, seemed to be entirely free from any reasonable objection from house owners.

On Plain Street there had been offered for lease or sale land owned by Connors Bros., Geo. W. Fifield, Robert G. Bartlett and James W. Bennett on the east side, and land owned by Walter Coburn, Robert G. Bartlett and James W. Bennett on the west side, and after a thorough examination of all the locations, decided to close a contract with Connors Bros. for a lot bounded and described as follows, viz :

Beginning at a stone bound in the southerly line of Plain Street, one hundred (100) feet westerly from the intersection of the westerly line of a proposed street and the southerly of Plain Street, as shown on a plan of a part of the Mather land belonging to heirs of P. Connors, made by Osgood and Snell, a copy of said plan, and the location of the parcel of land herein described being recorded in the office of the City Engineer of the City of Lowell ; thence southerly at an angle of $98^{\circ} 45'$ with said line of Plain Street, measured on the easterly side of the line described, three hundred (300) feet to a stone bound ; thence westerly at a right angle on said Connors land one hundred fifty (150) feet to a stone bound ; thence northwesterly parallel with and one hundred fifty (150) feet distant from the first line described, to southerly line of Plain Street ; thence easterly about one hundred fifty one and seven tenths (151.7) feet by the southerly line of Plain Street to the point of beginning.

As the contract for the building of the Cremator was delayed by the negotiations for land upon which to erect, it was not written and signed until September 15, 1892.

As was expected by the Board, some of the residents in the vicinity of the location objected, signing and presenting a petition to the Superior Court, asking for an injunction to prevent the Board from building the furnace on the ground selected.

The members of the Board were summoned before the Court, but the case as presented by the counsel for the objectors was so weak that the Judge declined to hear anything from the City's representatives, and gave the petitioners leave to withdraw at once.

The cremator was ready for trial December 14, and on that day the six days test was commenced by Col. W. F. Morse, agent of the Engle Company, with the following result:

Swill burned	. . .	81.46 cubic yards weighing	. . .	101,142 pounds.
Refuse "	. . .	23.01 " " "	. . .	3,787 "
<hr/>				
Totals	. . .	104.47		14,929
Coal burned	. . .	10 $\frac{3}{4}$ tons.	City Labor	. . . \$12.00

No smoke or odor from the burning.

During the six days all the waste collected by the city was destroyed, but the cost was more than that which was stipulated, because of the fact that the collection included so small a proportion of refuse, and was almost entirely solid swill and water.

There can be no doubt of the capacity of the cremator to destroy the specified amount (70 cubic yards) within the specified time just as soon as the collection service is able to deliver it at the furnace, but there is doubt about the cost.

It will probably take the month of January to complete the preparation needed to take care of the increased amount of material we shall have to handle, and on March 1, 1893, the Board will issue the following order:

On and after March 1, 1893, all the swill and garbage made by the householders in the city limits, will be burned under the direction of the Board of Health.

At present collections can only be made twice each week, and it is important that it should be kept so as to reduce its possible annoyance during the period of its retention on the premises.

In order to keep this refuse cleanly, the Board would suggest the making of a box or barrel, large enough to keep three days' refuse, and provide it with a cover, that rain water may be kept out and the odor confined.

Put into your receptacle for swill all kitchen refuse, apple and potato parings, corn husks, cabbage leaves, shoes, rubbers, tin cans, old bedding, soiled linen or cotton, and put *Nothing but Ashes or Earth* into your ash barrels.

All meat and fish markets can have their refuse burned at any time during the day.

Merchants are requested to carry their straw, paper and waste to the cremator, instead of littering any of the dumps that are kept for the disposal of clean ashes and earth.

Trade and manufacturing refuse, waste building materials, garden sweepings and cuttings, are excluded from the products that are cared for by the Board of Health, and must be removed at the expense of the house owner.

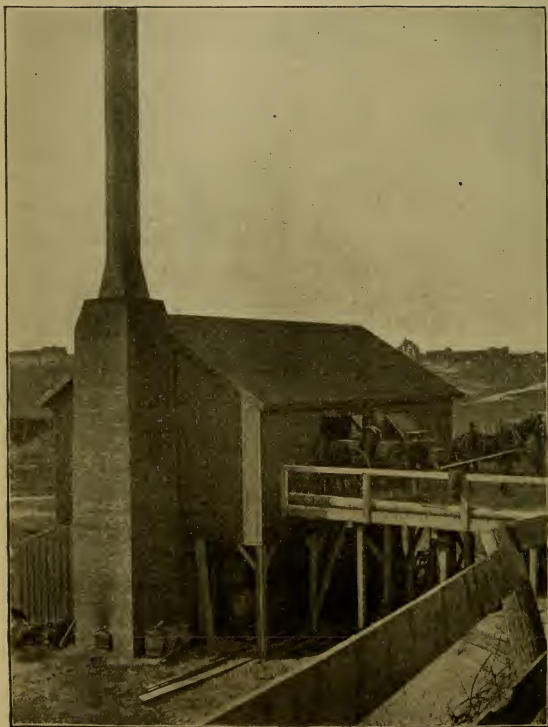
It is absolutely necessary to the health of our city that this separation shall be strictly observed, and the Board of Health respectfully and earnestly request your co-operation in effecting it.

In some cities it has been the custom to turn the public garbage over to a contractor, who removes it to a distance away from the city limits, and by plowing it into the land, attempts to turn it into a fertilizer. Such a plan was seriously contemplated last year by a strong minority of the City Council, but fortunately they were beaten. To be sure, it gets rid of the garbage to a certain extent, but it contaminates the land, does not enrich the soil, poisons the possible source of some water supply in its vicinity, is costly, offensive and disagreeable to manipulate and handle, and is valueless, as, according to the experience of the best scientists, garbage in its raw state has no real worth for any purposes of fertilization.

Further, it is the expressed opinion of State and Municipal Boards of Health, the unanimous report of committees of the foremost bodies of sanitarians of this country, the subject of complaint alike from the press and the public, that the practise of depositing garbage upon the ground, or in the water in the neighborhood of dwellings, or upon lands which are afterwards to be used for streets or dwellings, is not only offensive and objectionable, but is positively dangerous to the public health and a menace to the future sanitary condition of the city.

The cremation of garbage is considered the safest, best and the only way to meet all the requirements desired by sanitarians.

As Lowell makes the first attempt to cremate the waste products of a large city, in the New England States, the results are watched carefully by the authorities of all the cities and towns, and the following article printed by the Boston Herald, by relieving the writer from composition, and giving a better description than he could, is thankfully reproduced in this report.



THE CREMATION OF GARBAGE.

EXPERIMENT NOW IN PROGRESS AT LOWELL.

The First City in Massachusetts to Adopt the Method—Ashes Help Pay for the Fuel—Important Bearing on the City's Sanitary Condition—No Offensive Odor.

THE BOSTON HERALD, }
Monday, Dec. 19, 1892. }

The disposal of garbage, one of the most perplexing problems that confronts a city, has been solved by Lowell in the erection of a crematory, where the gatherings of the scavenger force are to be destroyed by fire.

The crematory has been built, the fires have been started, the work of garbage destruction begun, and is now going on successfully.

Garbage in Lowell includes the table refuse and miscellaneous waste of private households, the waste of stores, markets, business blocks, etc., the refuse of alleys and street scourings of the health department. It does not at present include the refuse from large hotels and boarding houses nor sewage.

The cremation of garbage in Lowell supplants a system by which the table refuse of private houses was collected and sold as swill to farmers. Other waste, including ashes, has been collected and thrown upon places desired to be filled and called dumps. Last year something over 14,000 barrels of swill were collected and sold, and about 18,000 loads of ashes, etc., were collected and deposited upon the dumps. The cost was \$8,000 for collecting ashes, and \$6,000 for collecting swill. A revenue of about \$3,000 was derived from the sale of swill.

In consequence of sundry insuperable and very important objections, the health authorities decided in 1889 to abolish so much of the system as applied to the sale of swill, and the miscellaneous admixture of household waste other than offal with ashes. The

establishment of the crematory is one feature of the consummation of the plan. It will be completed with the adoption and the enforcement of an ordinance compelling the separation of all waste into two classes—coal ashes in one—everything else in the other. The first will be used for land filling; the second will go to the cremator.

The crematory has been built under contract by the Engle Sanitary & Cremation Company. Generally speaking, any sort of a furnace with a suitable fire will destroy garbage, but the desideratum here is a furnace which will destroy garbage and

Not Make a Nuisance of the Process.

The furnace in this city is about $1\frac{1}{2}$ miles from the city's geographical centre, in a vicinity not too remote from habitation to constitute a furnace burning garbage under ordinary conditions a nuisance, and this is avoided by the Engle Furnace by two fires, which form its characteristic and distinctive feature. A fire at one end burns the garbage; the smoke and gases pass over a fire at the other end and are consumed. At the time of a *HERALD* reporter's call there were eight two-horse cartloads of garbage on the grate burning, yet from the top of the front stack issued only a thin film of white smoke, and no odor whatever was apparent.

The crematory in this city is inclosed in a house 35 ft. long by 25 ft. wide, made of galvanized corrugated iron. The house stands about 20 feet from the line of Plain street, in what was apparently a sand bank. A platform from the street, supported by timbers, leads directly upon the top of the furnace. Teams drive upon the platform, and dump their loads upon a chute made of steel plates which slope toward a number of holes in the top of the furnace. One of the holes is large enough to admit the body of a horse, and whatever the nature of the material thrown down it quickly falls or is raked into holes, and descends into the maelstrom of flame passing beneath. The holes are ordinarily covered with fire clay plates, withdrawn and replaced by the aid of iron handles. When the apertures are uncovered there is a strong downward draft, and no odor is apparent upon the premises save that from the material as it is dumped. A hose and brush, however, quickly clean off the platform, and the roaring fire takes care of all the waste, both liquid and solid.

The Furnace Itself

is of rectangular brick construction, 42 feet long, $9\frac{1}{2}$ feet wide, and $12\frac{1}{2}$ feet high, outside measurement, and the stack is 30 feet of brick,

60 feet of iron. At each end on the furnace, on a line with the garbage grates, are fire boxes, and at the stack end are flues into the chimney, closed by heavy fire-clay slabs. The interior walls are lined with heavy fire-clay blocks, accurately fitted together, backed on the outside by a heavy brick wall, braced and bonded together with stays, rods and angle-irons.

The furnace being charged, the fires are lighted first at the front and afterwards at the rear end. The flames from the first fire pass over and through the mass of garbage piled upon the grates, driving the smoke and gases into and across the second fire, where they are consumed. The flames from the second fire are by the action of a strong draught, brought back underneath the garbage grates, intensely heating the mass from below. When liquids are to be destroyed, a part of this heat and flame is directed under the hearth or pan, and all the contents are quickly evaporated and burned. All the odors, gases and products of combustion are passed through one or the other of the fires, there being no escape except across the fire boxes.

The ashes, as they fall through the grate, are raked out of a range of doors on the side, and from time to time, as required, the garbage is stirred up and distributed over the grates by bars thrust through an upper range of stoke doors.

The terms of the contract for this furnace require a capacity of 70 cubic yards per day of 24 hours, equivalent to about 30 tons, which is twice to three times the estimated requirements of the city at the present time. To operate it requires $1\frac{1}{2}$ to 2 tons of coal per day and two men. The amount of fuel required depends somewhat upon the character of the material to be destroyed. The body of a horse is consumed in about an hour. There is an offset more or less important in the ashes. The process of destruction yields about 5 per cent. of ashes, and about 5 to 8 per cent. of the ashes is potash. When screened and separated from broken glass, tin cans, etc., the residue is worth about the same as Canada wood ashes, or about \$24 per ton. In some places the value of the ashes nearly defrays the cost of fuel, but in Lowell, where animal refuse is bought by fertilizer and soap manufacturers, the value of the ashes will not be as great.

By reason of the extensive scepticism on the subject in this city, and persistent attempts to defeat the project, the agents of the crematory have made special efforts to secure a good result in

Lowell. The draught obtained is stronger than that of any furnace they have constructed. The furnace has also been constructed with grate bars of fire clay instead of steel rails heretofore used. The bars are of novel design, somewhat impracticable of description, but, being dovetailed closely together, the result is what is practically an indestructible grate. There can be thrown upon the grate about 12 loads of material, or in the neighborhood of 15 cubic yards, and the furnace thus charged will dispose of it in about three hours.

The furnace

Has Been Run Experimentally

the past week, under the supervision of Col. W. F. Morse, the general agent of the Engle Company, and by men furnished by the company. Under the instruction of the company's men the city employes will be taught how to run the fires with the least expense of fuel, and other details of management. During the ensuing week the city government will be invited to witness its operation, and the furnace will be formally handed over to the city in execution of the contract.

The history of the solution of the proper method of disposing of garbage in Lowell is an evolutionary record of the growth of sanitary knowledge in the community, and the difficulties met and surmounted are typical probably of most all New England cities. Ten years ago, when the haphazard method of disposing of swill to collectors who could make use of it, had involved so much offence that it could no longer be borne, it was proposed in the city council to establish a municipal piggery at the city farm, collect the swill and raise swine to offset the expense. For a few months it was a burning question. It was discussed in the meetings of the city council, and newspapers and committees junketed from place to place to get information about city piggeries. The general conclusion arrived at was that the piggeries were not successful financially. The sanitary issue was raised, but not very strongly insisted upon. Many of the evils now known to be connected with such a system had not then been demonstrated. Finally, instead of a city piggery, the idea of collecting the city swill and of selling it to farmers was proposed and adopted. It has since been carried on with uniformly baleful results.

A City Swillhouse

necessitated municipal collection of the stuff. Here an improvement was made. Tight carts were provided, and collections were made

regularly and as frequently as practicable. In time, also, purchasers were compelled to convey the swill away from the city in tight casks provided by the health department. The city undertook to make collections from private houses only, leaving the refuse of hotels and boarding houses to be collected by men who where licensed by the board of health. Cleanliness, so far as practicable, was insisted upon and secured. By reason of the larger quantity available at such places, collections could be made frequently and before offence was created. It was impracticable, however, to make collections from private houses often enough to prevent decomposition. The consequence was that the swill collected by the city, beside being offensive from its disgustingly heterogeneous character, became still more offensive by reason of fermentation. For the last six to ten years the stuff sold to farmers by the city as swill has been an aggregation of nastiness that would shock any one whose sense of decency had not been blunted by association. In 1888 the city sold 11,296 barrels of it; in 1889, 10,756 barrels; 1890, 12,152 barrels; 1891, 14,532 barrels.

The understanding between seller and purchaser was that the swill should be fed to swine only. It was unfit even for such food. The investigations of Dr. Mark in Boston several years ago traced the origin of trichinosis to swine fed upon city swill. But good faith on the part of purchasers was an exception rather than the rule. There was profit to a rich producer in feeding swill to cows, and it was extensively done. There being no law and little inspection, unscrupulous milk raisers did as they pleased with the swill after getting it out of the city limits, and it was not until it became generally known that the product of swill feeding to cows was returning to the city in the milk supplied to practically every family that a storm of indignation arose and energetic measures were taken to stop the nefarious business. Epidemics of cholera infantum have been frequent in the city, especially in districts where the people had no ice or proper means for preserving milk. They were traced to swill milk so positively as to have no room for doubt on the point that the city's swill system was directly responsible for the great rate of mortality among the infants.

Chiefly through the efforts of the Lowell Board of Health, the Legislature in 1889 passed a law making it a crime to feed swill collected in cities to cows whose milk was subsequently sold. Under this law several farmers have been convicted and sentenced. The incident was in each case a salutary warning, and it is a fact now

that in certain country districts about Lowell as much excitement is roused by the appearance of a health inspector in the vicinity as is occasioned in the city by raids of police upon illegal liquor depositories or disreputable houses.

But the abatement of the swill nuisance was the

Solution of Only Half the Problem.

In this, as in every city, there are certain waste products that must be disposed of, which cannot be classed as swill and which can not with safety be deposited on the dumps. Theoretically, those who permit land to be "made," in places called "dumps," assume that only ashes and inorganic matter will be deposited. Practically, however, all the sweepings of houses, filth of back yards, decayed fruits and vegetables from markets, and other waste that would form an endless category, goes to the dumps. The conscientious sometimes bury it, but the unscrupulous deposit load upon load of such material in the night time, and more than once teams have been seen dumping it into the river over the railings of the bridges.

The circumstances constituted a dilemma. Forbidden to put with swill only such material as was proper to be used for food, and on the other hand forbidden to deposit anything but ashes on the dumps, people had no way of disposing of the large quantity of rubbish classable in neither category. The only resort was to surreptitious disposition as indicated.

In applying a remedy every method of garbage disposal now known has been canvassed. It has been found impracticable to rely upon individual householders for effective destruction. Such a plan presumes too much intelligence on the part of domestics and too much willingness of co-operation. A large part of the population also live in tenement blocks, and even in business blocks, where persons have rooms only; rubbish accumulates impracticable of destruction on the premises, especially in summer. Burial has been found impracticable. Decomposition in the ground goes on slowly, and no acreage sufficiently large could be obtained to take care of the quantity accumulating in the city. Transportation out of town to premises to be purchased for dumps by teams or cars was found impracticable. It involved more expense than any other method, and tended directly toward litigation for nuisance. Systems of garbage destruction by which the residues are saved and made profitable was found impracticable in a city of this size, by reason of the relatively small quantity of available material. There was also an instinctive

repugnance to involving the city itself in a business enterprise of this character, or to complications with contractors with results questionably satisfactory.

This led the local board of health to the adoption of a method of absolute destruction. The plan was opposed on the ground of apparent waste and of anticipated expense. Reflections upon the evils of the swill system largely operated to settle both objections. The proper and effective disposition of the garbage has come to be considered, not as a matter of dollars and cents but as a question of public health and safety, and the expense does not look so formidable as it did. The help required is no more than was requisite for handling the material otherwise and the outgo for fuel seems likely to be offset by the ash residue and economy in transportation.

Lowell is the first city in Massachusetts to adopt the cremating method of garbage disposal. Health authorities in all parts of the state are watching the experiment, as having more or less interest relating to similar difficulties in their own cities. Besides the disposal of the refuse which ordinarily accumulates in a crowded community, the furnace is regarded as having a most important relation to the destruction of means by which

Contagious Diseases

are disseminated. The advent of cholera in the spring, which is so generally prophesied, is not so much dreaded now that all infected material can be utterly destroyed.

During the past week agents of one of the large corporations in this city assured a HERALD reporter that he should immediately make arrangements to cut off the swill system in his boarding houses and send everything to the crematory. The agent of another corporation is now negotiating with the board of health to a similar end, and it is probably only a question of time when all do so.

This is an exceedingly important factor, because if carried out as indicated the entire swill system of the city will be stamped out. The board of health has felt that it would handle only a portion of the problem at once. After successfully taking care of private house offal, it would attack the co-operative boarding house system of swill delivery. But the action of the agents unexpectedly assists in abating the nuisance at once. It illustrates what the board of health has observed as a most important effect in other cities. With a crematory in operation, people come to feel that it is easier to get rid of waste by giving it to the city teams than by surreptitiously hiding

it in an ash barrel, throwing it on the dumps, into the river or a back alley. It is an encouragement to cleanliness, and after a time a habit of improved sanitary condition follows among the people, who will no longer tolerate conditions of uncleanness which, perhaps, formerly excited no notice or remark.

The work of a crematory in Savannah, Ga., during 11 months of 1892 gives an interesting idea of what the garbage of a city of 65,000 inhabitants consists and of its quantity. During the time mentioned there was burned 15,473 loads of garbage, or 41,271 cubic yards; 611 loads of night soil, equalling 3,675 cubic yards, 49 cows, 45 horses, 43 goats, 623 dogs, 1,100 cats, 73 barrels of fish, 71 barrels of onions, 38 barrels of apples, 19,607 pounds of meat, 6,742 head of poultry, 8 loads of oranges, 28 loads bananas, 13 loads cocoanuts, 1 load apples, 1 load of peaches, 18 loads of peanuts, 18 loads of potatoes, 1 load of tongues, 1,370 dozen eggs, 6 snakes, a monkey, rabbit and sheep, and 242 pieces of infected goods. This made a mass of 46,000 cubic yards destroyed, at an average expense of 15 cents per cubic yard.

Extracts from Paper Read Before the Massachusetts Board of Health at Lynn, Mass., Oct. 20, 1892. The Destruction of Town Waste by Fire. By W. F. Morse, New York City.

* * * * The cremation of garbage is not an exact science; no one can accurately say from experience in one place, what precisely will be the results obtained by identical means when used in another place; nor can any one predict what will be the amount, character, or class of waste which a city will send to a cremating furnace to be destroyed. But by comparison of places where garbage has been destroyed by fire for some years, and by observing as far as can be done, similar situations and conditions, it is possible to forecast very nearly the results which would be obtained by the use of similar furnaces in other cities.

Before any place can contract for a cremating plant, it is necessary to determine approximately the amount of waste to be destroyed and, in determining this quantity the greatest possible variation in estimates seems to be the rule.

In the New England states where the household offal is collected separately from other wastes, this work is by far better done than in communities where all classes of wastes are collected indiscriminately in one receptacle; but the quantity collected by the contrac-

tor or by the city teams, by no means represents the total production. Every place in New England as far as observation goes, allows private scavengers to come into the town with enclosed carts or tightly sealed barrels and go to the largest hotels, restaurants and boarding-houses, and take all the household offal for their own purposes. In many cases the process is entirely aside from the city collection service, and is under no inspection unless the scavenger has in use a leaky cart or other objectionable vessel, hence it follows that the quantity so removed can only be guessed at. As a general rule the amount collected by these scavengers is very nearly equal to that collected regularly by city machinery; and this must be taken into consideration when providing for a means of destruction.

The amount of general refuse or the combustible waste of a city, depends to some extent upon the manufacturing industries; every shop, store or manufactory daily sweeps out a quantity of packing material, scraps and other combustible matter which is taken up with the ashes and carried to the dumps. The sweepings of houses and yards are of the same character and the whole of this together amounts to from twenty to thirty per cent. of the whole annual collection of the city. There is but little if any value to it, and when cast upon the ground, mixed with ashes and covered with earth, it makes a fairly satisfactory basis for the construction of streets and the filling in of low ground. But, when this material is mixed with putrescible matter then there is a very different state of things; fermentation sets in, the growth of the lower forms of animal life is promoted, offensive odors are given off and the dump becomes objectionable and gives rise to complaints.

It is so exceedingly difficult to separate the putrescible from the unobjectionable dry refuse, and the latter being of real value to serve as fuel, that it is probably the wiser plan to cremate both of these classes of waste; the furnace being constructed so as to receive one or the other or both together without interference with its work.

Another class of city waste which has frequently caused some trouble, is the bodies of the smaller animals. As a rule the larger animals are contracted for and taken out of the city by a rendering company; but the smaller ones, dogs, cats, etc., are of so little value, that they are left for the health department to remove. The cremating furnace when in regular operation will destroy as many bodies of this kind as can be comfortably put into it with no loss of heat, and at the same expense as if burning household offal. There have been

over sixty dogs burned at one time in a cremating furnace with perfect success, and to the great relief of the city authorities. When required, the carcasses of horses, mules, etc., may also be destroyed. About three quarters of one hour to one hour is required to destroy the bodies of the largest animals.

* * * * Of the two kinds of furnaces which have been longest in use, one has been more universally adopted, has proved itself to be of such character as to be equally useful in the tropics and the extreme northern parts of the country, and has been applied to the disposal of every class of waste that is possible to be produced. I refer to the "Engle Garbage Cremator," built by the Engle Sanitary and Cremation Co., Des Moines, Iowa.

The first cremator built by this company, five years ago, was in the nature of an experiment, and grew out of the necessity which then existed for the disposal of the waste of an interior city like Des Moines, where no sewerage was possible, and where the value of garbage for any purpose of fertilizing was nothing. The original purpose of the inventor was to destroy organic waste from his own house, which having been accomplished, he introduced the same system into court-houses, schools and county prisons, the next step being its introduction as a part of the municipal machinery of the city. Beginning with the construction of two furnaces the first year, the close of the fifth year has seen the building of thirty-one different cremators in twenty-three cities and towns, and in places ranging from the city of Panama on the Isthmus up the eastern seaboard to New York, and in west to points beyond the Rocky Mountains. In twenty-one different towns and cities, the Engle Cremator has been in active and continuous use, two only having been given up, not for reasons connected with the furnace but from other causes. It has been the aim of the Engle company to construct their furnaces so as to insure the utmost strength and stability, consistent with a moderate amount of expense, and while at first cremators were constructed with the ordinary fire brick found in every locality, now they are built of special material which will insure the durability of the structure far beyond any similar furnace of this character.

Remarks of Dr J B. Field.

MR. CHAIRMAN:—I think there is no need of my saying anything about the necessity of destroying garbage. I think all boards of health will agree with me that it is necessary. We do not want to put all the garbage on the dump, neither do we want to feed it to

swine, and least of all to the milch cow. I think we all agree that the garbage should be destroyed or its characteristics changed. The question is how best to accomplish this, whether by one of the two methods brought before us today, or perhaps by some other method. As to which is the best method, I think no one can say positively. One method may be better adapted to one locality, and another to another. The whole subject is yet, as we might say, in its infancy. In considering this subject of the destruction of garbage by cremation, we must take into account the effects of the method, its liability of creating a nuisance, and the expense of the method. Any method must destroy the garbage thoroughly or change its characteristics thoroughly, so that it will be harmless. I can personally testify that the Engle Process does so, and from the testimony of others it would seem very certain that the Simonin Process does change the characteristics of the material. As to the matter of freedom from nuisance I can only testify that the Engle Process, as I have seen it, creates no nuisance. I wish I also had the pleasure of seeing the Simonin Process so I could testify as to that. The matter of expense is a difficult one to decide. When the city of Lowell some four or five years ago began on this idea of destroying garbage, we visited the plants that were then in operation. Our attention was first captivated by the Merz Process in Buffalo, and when we were informed we could get something valuable out of this worthless material, it appealed to us favorably. A member of our Board of Health went to Buffalo and found it cost more to extract the valuable constituents of the garbage than to destroy it, and moreover the process as reported by him created quite a nuisance. We next turned to the destruction of garbage by cremation and after looking at several devices, the Engle furnace seemed to be the best one. I need not say anything about the construction of the furnace, as that has been spoken of by Col. Morse.

Another point to be considered is the size of the city. Supposing two processes are equally good, the Simonin Process, for instance, and the Engle Process, it is a question whether the one process would not be best adapted to a large city and the other process to a small city. If a process requires a large and elaborate plant, it would seem that for a city of the size of Lowell such a plant could not be constructed except at great expense. Of course, there are some advantages, as has been said by the gentleman who read Mr. Simonin's paper, by not destroying bedding and clothing; on the other hand there are certain advantages by completely burning them. There

may be articles which we wish completely to destroy, and, if so, there is no better disinfectant than fire.

Then as to whether the plan should be operated by the company under contract, or whether it should be owned by the city, there is something to be said on both sides. Under a definite contract for a term of years the city knows just what it is going to cost. On the other hand, if the plant is owned by the city, and operated by the Board of Health, there will be as little nuisance as possible. At Lowell we have to watch the contractors collecting night-soil, and we keep inspectors for that purpose. If the city collected the night-soil, it would do so in order to get rid of it with the least nuisance possible. So, if the city destroyed the garbage, I believe there would be a liability that the work would be done with less nuisance, than if done by contractors.

In regard to the city of Lowell I can only say we have been at this for five years. When we began it was a hard thing to convince members of the city government that this was not a fancy or hobby of the Board of Health, some pet scheme they liked to talk about, but we have kept at it. We have taken the city government around to see different works, and for the two past years we came very near getting an appropriation for a furnace, failing once because of politics, and a second time because a city father kept swine, but this year we got an appropriation, and then thought that it was going to be plain sailing. Unfortunately it was not. Immediately there arose the question of a site, and this will be the case whatever process is adopted,—where will you put your furnace or extractor, or whatever you may call it? Of course the shorter the haul the better. It may be safely located in any place where a manufactory, a tannery, or anything else of that kind may be located. There may be some smell, but it will not be dangerous to health. We looked over several sites, and found one. At first there was a temporary injunction served upon us. We had to appear in court, and the judge very wisely took the ground that there could be no nuisance until one was created. He said the city of Lowell should be permitted to erect a furnace and then when the furnace is up, if it is a nuisance, we will grant an injunction.

PLUMBING.

It is an undoubted and indisputable fact that the most important part of any building is the plumbing. If the plumbing is faulty, or poorly constructed, it means that the health of the occupants, and sometimes their lives, are in constant danger.

We have at the present time of writing no less than twenty-four different establishments carrying on the business of plumbing. We have connected with the Board of Health one inspector of plumbing, who is himself a practical plumber and who has overlooked and inspected during the year 287 different jobs of plumbing. He has had not a little trouble with some of the persons who do plumbing, it being necessary at times to visit and inspect this work every day. With some others engaged in the business he has had no trouble at all, the rules being lived up to in spirit at all times. That the people in general are awakening to the condition of the plumbing business is shown by the fact that a State Board of Examiners has been appointed by the Legislature of New York, to control the plumbing business of that state and see that none but persons competent to carry on a plumbing business are allowed to embark, or attempt to do what they are not capable of doing.

Following is an extract from a petition about to be presented to our own Legislature now in session.

“ Inasmuch as we have to trust our lives to a greater or less extent in the hands of plumbers doing work in our dwelling houses, it is desirable that we should have the assurance that such plumbers are competent to perform their duties in a proper manner and to have an understanding of the sanitary requirements of their calling, and that we may feel that the work that is being done is as it properly should be and not left in a condition that will introduce contagious diseases into our families, and for the same reason that we require

steamboat engineers and pilots to pass an examination before obtaining license, that when we embark on such steamboat we feel that we are in competent hands. Therefore we should require that the plumbers should qualify themselves by passing a like examination.

For this reason we ask you to sign the accompanying petition for a State Board of Examiners, to control this branch of a most important industry."

If this measure can be put through and become a state law it will remedy a great many difficulties that the Board of Health have to contend with. But few people realize or know the many difficulties that a Board of Health labor under. Lowell is cursed by the presence of not a few philanthropists (?) and tenement house owners, who are continually in trouble, and who are forever complaining of the expense that they are put to by being compelled to carry out the orders of the Health Board. This is the same class of people who will wisely ask you: "What is the use of a Board of Health? They do no one any good and should be abolished. They made me take out my vaults, and they had been in over twenty years, and no one ever found fault with them before."

The reason of their antipathy is very apparent. They had been made to do away with their foul and pestilential breeding places, and were obliged to put their tenements into decent condition, so that they would be habitable. The strongest opposition comes from this class of our community, who are well able to keep their property in a proper sanitary condition, and who should do so without being compelled to, if they had any regard for the health or welfare of the unfortunates who come within their grasp.

During the past three years 348 vaults have been ordered out and 685 traps placed under sinks by the order of the Board.

Every house on any street where there is a public sewer should connect with the same, and this rule is complied with in other cities, notably in Worcester, Mass., where so few privy vaults remain that the odorless contractor does not have any work over two months in the year. Whenever a vault is removed it means that plumbing

must be done to provide sanitary facilities in its place, and that one plumbing inspector is not sufficient to look after all of the plumbing work done in our city is apparent. There should be at least one more, and the city districted, and each inspector should then be held accountable for every job done in his district. A house-to-house inspection should be made and a record kept at the office, of the sanitary condition of every house in the city and when such a work is completed and the record is open to the inspection of anyone wishing to hire or buy a house the results will show that such an effort will be appreciated by all, and that the death rate of our city will be diminished, and that it will then truly be a model sanitary city.

In closing six years' service on the Board of Health, the writer wishes to acknowledge the valuable services of Agent Horace H. Knapp, and Supt. Frederick A. Bates, Inspectors Stephen Garrity and Joseph Mack. No one can appreciate or acknowledge the many vexations and trials that Agent Knapp and Supt. Bates have, until they are brought in contact with them, and to them the thanks of our citizens are due, for the carrying out of the work of the Board, in the efficient and zealous manner they have.

INSPECTION OF MILK.

It is due to the influence and persuasion of His Honor George W. Fifield, that this branch of duties, heretofore coming under the supervision of the Board, has been for the last year, and will probably remain in the future, a more important and better paid position, from the reserve fund and not from the appropriation for the Board of Health.

Its work for the last year, outside of its routine duties, that most concerned the Board and the city of Lowell, was the endeavor to find out how many of the farmers who bought swill in Lowell were feeding it to cows instead of swine. On the morning of March 29, three teams were sent to Dracut, Chelmsford, Tewksbury and Pelham, N. H., with instructions to visit every farm, and as a result of this investigation, warrants were sworn out against the following persons, under Chapter 326 of the Act of 1889 :

Whittier Brothers,	.	.	.	.	.	Dracut,
Sumner Parker,	.	.	.	.	.	"
Bernice Parker,	.	.	.	.	.	"
Stickney Brothers	.	.	.	.	.	"
D. N. Cluf,	.	.	.	.	.	"
E. S. Fox,	.	.	.	.	.	"
C. H. Dennison,	.	.	.	.	.	"

Hon. Charles S. Lilley was engaged to prepare the cases, as the City Solicitor was at that time busy in the Superior Court. At the trial in the Police Court, the case of Stickney Brothers was nol. pros'd: Whittier Brothers and Bernice Parker were acquitted: Sumner Parker, D. N. Cluf, E. S. Fox, and C. H. Dennison were convicted and fined fifty dollars (\$50.) each, from which sentence they appealed. In the upper court C. H. Dennison's case was nol. pros'd, from some defect in the indictment. In the case of S. Parker, D. N. Cluf, and E. S. Fox, they pleaded guilty, and paid a nominal fine.

Since the time of the above trip the inspector has, from time to time, visited the milk farms in the adjoining towns, and while as a rule, they were in very good sanitary condition, in some cases they were very bad; all, however, promised an improvement.

BATH HOUSE.

From July 2, to Sept. 17 there were twenty-three thousand two hundred and sixty-five (23,265) baths taken by males alone, as it was not open to women this year.

As this is an increase in the number of persons from last year, it seems to satisfy the desire of a large number of people, notwithstanding its lack of ideal conveniences.

CONTAGIOUS DISEASES.

It is gratifying to state that the increasing recognition on the part of the intelligent public of the necessity of employing proper measures for the restriction and prevention of contagious and infectious diseases, is becoming more evident. In many instances a hearty co-operation is given the department in its efforts to prevent the spread of infection.

The number of cases of infectious diseases reported during the year was 773.

Every case was inspected by this department and a great number of sanitary defects discovered and corrected.

The work of disinfecting and fumigation of premises where infectious diseases existed, has been performed as thoroughly as could be done by the burning of sulphur and the use of carbolic acid and corrosive sublimate.

DEATHS FROM PRINCIPAL CONTAGIOUS DISEASES

	1892	1891	1890	1889
Diphtheria and Croup.....	25	15	41	100
Scarlet Fever.....	13	8	7	13
Measles.....	11	11	2	3
Typhoid Fever.....	75	77	123	65
Total.....	124	111	173	181

The year 1891 made the best showing for contagious diseases ever made in Lowell, and in view of the natural increase in population the Board is well pleased with the showing for 1892, although a little in excess of last year. While the number of cases of diphtheria was less than last year the disease was more malignant and the per cent. of fatal cases was double that of last year.

CASES OF CONTAGIOUS DISEASES REPORTED.

	1892	1891	1890	1889
Diphtheria and Croup.....	69	78	157	298
Scarlet Fever.....	240	237	230	155
Measles.....	91	675	240	109
Typhoid Fever.....	373	293	454	194

DIPHTHERIA AND CROUP.

	1892	1891	1890	1889
Cases reported	69	78	157	297
Deaths.....	24	14	41	100
Per cent. of fatal cases.....	34	17	26	33

DIPHTHERIA.

1892	Reported Cases.	Deaths.
January	12	2
February.....	4	2
March.....	7	3

April.....	1	0
May.....	7	2
June.....	2	0
July.....	5	3
August.....	3	1
September.....	6	2
October.....	5	3
November.....	4	1
December.....	12	5
	<hr/>	<hr/>
	69	24

DEATHS FROM DIPHTHERIA.

Age.				Ward.
Jan.	16	Female.	9 3 Stanley Street.....	2
"	27	"	4 57 Moore Street.....	3
Feb.	12	Male.	1 57 " "	3
"	15	Female.	3 57 " "	3
March	9	Male.	5 7 Lawrence Street.....	6
"	23	Female.	4 3 Bratton Avenue.....	2
"	24	Male.	2 3 " "	2
May	7	Female.	3 44 Lilley Avenue.....	2
"	14	"	3 10 Coolidge Street.....	5
July	4	"	21 36 Franklin "	5
"	10	"	4 38 " "	5
"	21	Male.	4 8 Dummer "	1
Aug.	22	Female.	4 128 Lakeview Avenue.....	2
Sept.	28	"	8 197 " "	2
"	28	"	3 197 " "	2
Oct.	16	Male.	4 260 Broadway Street.....	5
"	21	"	1 138 Adams "	5
"	26	"	2 15 Stanley "	2
Nov.	23	"	1 56 Coburn "	2
Dec.	22	Female.	4 2 Fay Street.....	3
"	23	Male.	26 35 Massachusetts Corporation.....	2
"	27	Female.	7 Billings Street.....	2
"	29	"	5 6 June Street.....	2
"	30	"	3 6 " "	2

CASES REPORTED.

		Deaths.
Ward 1.....	4	1
" 2.....	27	13
" 3.....	14	4
" 4.....	2	0
" 5.....	11	5
" 6.....	11	1
	—	—
	69	24

That the specific poison of diphtheria consists of a living organism is now pretty generally recognized, although there is some doubt as to its identity.

Roux and Yersin, recently working at the Pasteur Institute, adopt the Klebs-Löffler bacillus as the essential cause of diphtheria, stating not only that they have been able to transmit the disease to pigeons and rabbits by inoculation of this bacillus, but that the nutrient fluid in which it had been grown, after being passed through a filter of unglazed porcelain, when injected into the subcutaneous tissues of various animals (the required quantity depending upon the age of the culture), produced either a rapidly fatal result or a less acute illness with subsequent paralytic symptoms. These investigators found moreover, that a growth of the bacillus may, if protected from air and light, be kept for an almost indefinite time and still produce characteristic symptoms in animals inoculated with it, but that, exposed to air and light, it speedily loses its virulence. These facts would appear to warrant the supposition that the bacilli may exist, for an indefinite period, dormant in soil, particularly that beneath dwelling houses, where protected from light and excess of oxygen, and supplied with a necessary amount of heat, they would regain their full energy as soon as their environment became more favorable.

The following simple and concise description of diphtheria is well worth reproducing for the benefit of the public.

DIPHtheria.

Diphtheria is now such a common and widely-diffused disease that every mother and teacher should have some idea of its manifesta-

tions. The earlier it can be recognized the better will be the chance of controlling its ravages. It is particularly apt to attack the period of childhood, the majority of cases occurring under ten years. Adults, however, do not always escape, although children show the greatest susceptibility.

There is perhaps no disease whose type varies within such wide limits as diphtheria. Many cases are so mild that the children are hardly considered ill, and are not even put to bed. The true nature of such cases is frequently overlooked, and they inflict great damage by spreading the disease in the neighborhood. On the other hand, diphtheria may be so malignant as to kill almost in a few hours, before the false membrane has time fully to form. Between these extremes there is every grade of severity. It must be thoroughly understood at the start that all cases of diphtheria are liable to be dangerous, if not fatal. The disease does not usually begin very abruptly. There may be a slight chilliness followed by fever, with headache and pains in the back and limbs. The appetite is lost, and a feeling of languor is often experienced. The fever does not usually run very high, even in severe cases, and by the third day the temperature may be down almost to the normal, although the disease has by no means run its course. The earlier signs of diphtheria are a good deal like that of a heavy cold. This makes an early recognition of the throat symptoms of great importance. Patients generally complain first of a feeling of soreness, with more or less fullness in the throat. The sensation of pain is no greater, as a rule, than is experienced in ordinary inflammations of this part. Indeed, there is often no complaint of sore throat at all. I have seen cases of malignant diphtheria where all the structures of the throat were covered with false membrane, and yet the children, when questioned, would deny the existence of any local pain. In every case of illness in children a careful examination of the throat should be made.

There is a very common disease of the throat, accompanied by a white exudation that is frequently confounded with diphtheria. The mucous membrane of the throat, particularly of the tonsils, is studded with numerous small holes called follicles. These follicles

secrete mucous, and when the throat is inflamed from any cause, mucous and pus collect in the mouths of the follicles, appearing as a whitish exudation. The tonsils are oftenest the seat of local inflammation, the disease being known as tonsillitis. The confusion that exists is between simple tonsillitis with points of exudation, and diphtheria with a false membrane. The following considerations will help to distinguish these affections :

In tonsillitis there is no membrane, but the exudation is pushed up out of the follicles, forming numerous separate points that usually remain distinct throughout the disease. These small, white points can generally be scraped off without leaving a bleeding or especially irritated surface. In diphtheria there is a grayish-white false membrane, not raised much above the mucous membrane but deeply adherent to it and surrounded by an area of angry looking inflammation. There is generally only one patch upon the tonsil, but if the false membrane does form from several foci, they will be apt to coalesce within twelve or twenty-four hours to form a single membrane, and not remain distinct throughout the disease.

The symptoms are likewise different in these two disorders. Tonsillitis begins abruptly with a severe chill, followed by a high fever, with intense headache and general prostration. The disease, however, runs its course in three or four days, and is followed by no complications or sequelæ. Diphtheria begins much more insidiously, and it is often hard for the child to say exactly when the illness began. The symptoms at first are not so urgent as in tonsillitis, but in a few days the difference between a simple local inflammation and a grave constitutional disease are apt to manifest themselves.

All cases of diphtheria should be under the care of a competent physician, as, indeed, every case of cold or inflammation about the throat. But there are certain simple hygienic rules that can be followed until one is procured. Children with diphtheria, no matter how mild, should be put to bed and kept there until all manifestations of the disease have ceased. Walking cases of mild diphtheria not only infect others, but are liable to dangerous symptoms, notably

croup. The diphtheretic false membrane runs along inflamed surfaces, and if the child, by being exposed to draughts, contracts a slight bronchitis, the membrane will almost surely descend and produce suffocation. It is a fact that croup is especially liable to complicate mild cases of diphtheria. Kidney trouble or heart failure is more apt to affect children who are out of bed.

To relieve local inflammation and help the separation of false membrane, it is well to apply large hot flax-seed meal poultices to the neck. The false membrane must be frequently disinfected by sprays containing carbolic acid or other disinfectants. As diphtheria is an exhausting disease, large quantity of milk and beef tea may be administered to keep up the strength. It is best to give no solid food.—*Babyhood.*

MEASLES.

1892	Reported cases.	Deaths.
January.....	2	4
February.....	2	0
March.....	0	1
April.....	3	0
May.....	9	0
June.....	12	3
July.....	14	1
August.....	3	0
September.....	3	1
October.....	7	0
November.....	13	0
December.....	23	1
	—	—
Total.....	91	11

SCARLET FEVER.

	1892	1891	1890	1889	1888
Cases reported.....	240	237	230	155	89
Deaths.....	13	8	7	13	13
Per cent fatal cases.....	5	3	3	8	14
1892	Reported cases.	Deaths.			
January.....	32	2			
February.....	31	1			

1892	Reported cases.	Deaths.
March	24	1
April.....	22	3
May.....	35	1
June.....	27	1
July.....	12	0
August.....	7	1
September.....	16	1
October.....	13	0
November.....	6	0
December.....	15	2
	<hr/> 240	<hr/> 13

LOCATION OF DEATHS.

1892			Age.	Ward.
Jan.	6	1 Ames Place.....	8	4
"	15	3 Browns Court, Lakeview Avenue.	3	2
Feb.	15	81 Pleasant Street.....	2	6
March	31	53 Lawrence Corporation.....	3	1
April	9	30 Smith Street.....	11	4
"	12	261 Westford Street.....	7	4
"	14	23 South Hastings.....	2	4
May	31	19 Main Street.....	6	3
June	5	3 Tremont Corporation.....	1	1
Aug.	8	9 Common Street.....	1	5
Sept.	16	6 Irving Street.....	39	3
Dec.	11	20 Rock Street.....	2	5
"	25	20 Whipple Street.....	1	3

TYPHOID FEVER.

1892	Reported cases.	Deaths.
January.....	34	13
February.....	53	8
March	38	9
April.....	24	4
May.....	18	7
June.....	16	2
July.....	11	4
August.....	23	4
September.....	31	7

October.....	36	4
November.....	19	3
December.....	70	10
<hr/>		
Total 1892.....	373	75
“ 1891.....	293	77
“ 1890.....	454	123
“ 1889.....	194	65

PLACE OF DEATH.

Ward 1.....	10
“ 2.....	9
“ 3.....	9
“ 4.....	9
“ 5.....	9
“ 6.....	7
Lowell Hospital.....	11
St. Johns Hospital.....	11
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Total.....	75
Males.....	36
Females.....	39
Oldest.....	78
Youngest.....	2
Average age.....	25

CASES REPORTED.

1892	
Ward 1.....	55
“ 2.....	60
“ 3.....	74
“ 4.....	64
“ 5.....	80
“ 6.....	40
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Total.....	373
Males.....	194
Females.....	179
Average age.....	21
Water Closets.....	295
Vaults.....	77

Since March, 1891, a systematic inspection and record of all cases of typhoid fever reported by the physicians of Lowell has been kept and an accurate transcript made of the results in a special book of typhoid fever records. They are yet somewhat imperfect and incomplete, but when it is remembered how little appreciation many have of the possibility of preventing the fever, and how difficult it is in some parts of the city to gain intelligent answers to questions, this incompleteness is somewhat excusable. The board hope that when completed for five years or more, these data will become valuable to the statistician and sanitarian, and afford a basis for reducing the number of deaths from this disease. The following quotations are of value as giving the latest opinions from one of the best authorities on the disease.

“The fact of this disease affecting specially the bowels obviously gives special opportunity for fouling the earth, and so for the passing on of the disease to other persons. Murchison and others have, indeed, affirmed the disease to be capable of arising *de novo* when surrounding conditions were favorable thereto, supporting their view with numbers of cases in which the most exhaustive inquiry had failed to elicit any trace of a pre-existent human case.

This theory, however, finds little acceptance at the present day, and later writers have attempted to explain Murchison's cases on the supposition that the bacillus, which is believed to be the exciting cause of the disease, is a vegetable parasite having an existence independent of the human subject, capable of completing its life-cycle, and of reproducing itself, if not in some other animal body, in the earth or atmosphere.

If this be so, one may thus account not only for those cases occurring in this country, which it has been impossible to trace to infection from one person to another, but also for the fact that travelers have been stricken down with this disease in tropical countries believed to be entirely uninhabited.

For the most part, however, typhoid undoubtedly spreads indirectly through the stools from one or more specific cases of the disease, in-

fecting drains, sewers, cesspools, or the soil itself, by which means the drinking water, air, or food become contaminated, and thus secure propagation of the malady in various directions.

For the system to be affected with typhoid, the essential cause of the malady must doubtless gain access to the alimentary canal, a possible way being that the dust of dry excreta may be carried in the air to the mouth, and then swallowed with the saliva; but the more frequent channel is undoubtedly by the ingestion of drinks and food. So great a mass of evidence has been collected on this point that the fact has well-nigh been lost sight of that in many cases the drinking water, for instance, is only the vehicle, the soil itself being the situation not only from which the poison is immediately derived, but one in which it is capable of lying dormant for an indefinite period.

In many country villages typhoid has been known to break out every autumn, although no sanitary defect could be discovered. In such cases it is probable that a large area of the soil is polluted, and thus it is impossible to secure immunity from the disease unless an entirely different source of water for drinking purposes be provided.

The prevalence of typhoid fever is markedly affected by seasonal and climatic influences, the greater number of cases in this country occurring in the autumn. The statistics of the London Fever Hospital for the years 1848-1870 inclusive, show that the number of admissions was greatest each year from August to November, while it was least in April and May. Buchan and Mitchill dealing with typhoid fever deaths state that, taking the average of a large number of years, the maximum point is reached in the last week in October, while the disease does not fall below its average until the last week in February, attaining its absolute minimum from the middle of May to the end of June.

Although no pronounced relation could be found between the death rate and the temperature or putrefactive activity of the soil, Fodor has demonstrated an apparent close connection between the typhoid curve and one representing variations in the level of the Danube, both these curves, almost without exception, rising and falling together. In this connection it must be remembered that the level of

the Danube exerts a very regular influence on the ground water level throughout the greater part of the town, and thus it would appear that in Buda-Pesth typhoid is most commonly related to a rising level of the water in the soil.

Seeing, then, that at Buda-Pesth at any rate, and perhaps at Munich, there is proof of a close relation between the extent to which typhoid prevails, and the variations in level of the ground water, it would be well to compare the conditions in Buda-Pesth with those in other cities in which this subject has been investigated, the following points being those which appear specially worthy of note :—

1. That the ground water in that town lies for the most part near to the surface, especially in those parts which have suffered most from typhoid.

2. That the variations of level are very small, and that they are regulated by the level of the Danube.

3. That the horizontal movement of the ground water is very slow ; and,

4. That, in consequence of this movement being particularly slow, the water stagnates in the polluted soil in those parts of the town which suffer most severely when the Danube rises.

At present, however, but little is certainly known as to the influence of telluric conditions on the prevalence of this disease, and further research is needed before any dogmatic statement can be made ; but notwithstanding the obscurity which still hangs over this subject, no one can deny the importance of the soil as the breeding place of the typhoid poison. As Linderwin very justly says “what the soil is on a large scale, the same on a small scale are also the floors of rooms, the walls of houses, the drains of privies and closets. Just as it matures at some depth in the ground, so also may the typhoid germ obtain the necessary conditions for its growth in a seam or cleft in the flooring of a room, or in the loosened mortar and sand between stones and slabs.

DEATHS FROM CHOLERA INFANTUM.

	1892	1891	1890	1889
January.....	2	2	1	1
February.....	2	2	2	5
March.....	3	3	1	0
	<hr/>	<hr/>	<hr/>	<hr/>
Total first quarter.....	7	7	4	6
April.....	0	5	5	4
May.....	9	7	3	5
June.....	25	27	10	36
	<hr/>	<hr/>	<hr/>	<hr/>
Total, second quarter.....	34	39	18	45
July.....	86	81	82	68
August.....	56	57	67	46
September.....	39	53	28	32
	<hr/>	<hr/>	<hr/>	<hr/>
Total, third quarter.....	181	191	177	146
October.....	5	8	13	13
November.....	2	6	4	2
December.....	4	3	2	3
	<hr/>	<hr/>	<hr/>	<hr/>
Total, fourth quarter.....	11	17	19	18
Total for the year.....	233	254	218	215

VITAL STATISTICS.

Number of deaths,	1892	1891	1890	1889
Males.....	1083	948	926	874
Females.....	1141	1024	1033	1025
	<hr/>	<hr/>	<hr/>	<hr/>
Total.....	2224	1972	1959	1899
Children under one year.....	673	589	580	569
" " two years.....	820	710	703	687
" " five years.....	928	830	810	811
Per cent. of total deaths under five years	41.8	42.1	41.3	42.7
	<hr/>	<hr/>	<hr/>	<hr/>
	1892	1891	1890	1889
Diarrhœal diseases under one year.....	217	241	202	206
" " " two years.....	251	273	233	237
" " " five years.....	255	280	237	246
" " " all ages.....	273	306	254	269
Per cent. of total deaths from diarrhœal diseases.....	12.3	15.6	12.9	14.1
Per cent. of total deaths from zymotic diseases.....	23.2	32.1	25.9	25.4

Birth-place.	Of Deceased.	Of Parents.
Lowell.....	1019	186
Massachusetts, elsewhere.....	158	227
Other States.....	278	511
Ireland.....	381	1458
Dominion of Canada.....	246	1313
Great Britain.....	95	320
Other Countries.....	11	62
Unknown.....	36	371

PLACE OF DEATH.

Ward 1.....	287
“ 2.....	331
“ 3.....	329
“ 4.....	300
“ 5.....	522
“ 6.....	250
Almhouse.....	56
Lowell Hospital.....	32
St. Johns Hospital.....	117
<hr/>	
Total deaths.....	2,224

PLACES OF INTERMENT

Catholic Cemetery.....	1,461
Edson Cemetery.....	423
Lowell Cemetery.....	132
Other cemeteries.....	8
Removed from the city.....	200
<hr/>	
Total.....	2,224

DEATHS CLASSIFIED.

	1892	1891	1890	1889
Diseases of the nervous system.....	301	245	253	267
“ “ “ circulatory system.....	141	150	150	143
“ “ “ respiratory system.....	350	294	243	214
“ “ “ digestive system.....	106	90	86	92
“ “ “ genito-urinary system...	70	73	63	55
All other local diseases.....	9	15	10	9
Total deaths from local diseases.....	977	867	805	780
Total deaths from zymotic diseases.....	516	461	508	484
“ “ “ constitutional diseases	349	340	331	336
“ “ “ developmental diseases	324	257	272	258
“ “ “ violence or unknown causes	58	47	43	41
Total deaths from all causes.....	2,224	1,972	1,959	1,899

PRINCIPAL CAUSES OF DEATH.

	1892	1891	1890	1889
Cholera infantum and other diarrhoeal diseases.....	273	306	254	269
Phthisis and other tuberculosis.....	238	256	253	250
Pneumonia and bronchitis.....	330	265	220	195
Infantile debility, marasmus and inanition	231	155	164	159
Heart disease.....	140	156	148	141
Typhoid fever	75	77	123	65
Apoplexy and paralysis.....	99	74	74	69
Old age.....	56	61	66	55
Disease of the brain (unclassified).....	60	40	60	64
Convulsions.....	51	53	60	63
Diseases of kidneys.....	64	66	56	46
Meningitis.....	83	65	51	49
Diphtheria and croup.....	25	15	41	100
All other causes.....	499	383	389	374
Totals.....	2,224	1,972	1,959	1,899

DEATHS IN 1892.

Increase or decrease as compared with 1891.

	Decrease.	Increase.
Cholera infantum and other diarrhoeal diseases.....	33	—
Phthisis and other tuberculosis...	18	—
Pneumonia and bronchitis.....	—	65
Infantile debility, marasmus and inanition.....	—	76
Heart disease.....	16	—
Typhoid fever.....	2	—
Apoplexy and paralysis.....	—	25
Old age.....	5	—
Disease of brain (unclassified)....	—	20
Convulsions.....	2	—
Disease of kidneys.....	2	—
Meningitis.....	—	18
Diphtheria and croup.....	—	10
All other causes.....	—	116
Totals.....	78	330
Total increase.....		252

Influenza, not separately tabulated above, is responsible for an increase of several deaths under the heading "all other causes".

DEATH RATE.

Population, census of.....	1880	59,485
“ “ “	1885	64,051
“ “ “	1890	77,605
“ “ “	1891 (estimated)	80,400
“ “ “	1892 (estimated)	83,200
Year.	Population.	Death rate.
1886.....	66,761	22.45
1887.....	69,475	26.94
1888.....	72,183	24.42
1889.....	74,894	25.38
1890.....	77,605	25.24
1891 (6 months).....	79,000	
1891 (6 months).....	80,400	24.72
1892 (6 months).....	81,800	
1892 (6 months).....	83,200	26.95

ANALYSIS OF PAY ROLL.

Amount expended, collection of ashes.....	\$ 9,857.42
“ “ “ of swill.....	5,593.02
“ “ general inspection.....	2,248.25
“ “ plumbing.....	1,024.50
“ “ meat inspection.....	261.00
“ “ office and supervision.....	1,612.80
“ “ foreman.....	715.50
“ “ alleys and dumps.....	941.91
“ “ watchman at stable.....	734.00
“ “ care of horses.....	675.00
“ “ repairing and painting wagons....	160.25
“ “ bath house.....	159.80
“ “ cleaning hospital.....	35.40
“ “ cremator.....	47.40
	<hr/>
	\$24,066.25

BILLS PAID IN 1892.

January.....	\$ 677.57
February.....	1,005.19
March.....	949.16
April.....	640.33
May.....	251.29
June.....	743.96
July.....	466.04
August.....	915.49
September.....	892.11
October.....	1,894.60
November.....	779.63
December.....	1,274.34
	<hr/>
Total.....	\$10,489.71

Hay, oats, straw, corn, &c.....	\$3,026.32
Repairing Wagons, Sleds and Harnesses.....	927.15
Lumber, Hardware and Sundries (Stable).....	1,106.83
Shoeing horses.....	247.75
Use of horses from other stables.....	89.50
New wagons and sleigh.....	973.23
New harnesses.....	436.80
Horses bought 4-\$250.....	1,000.00
Office, printing, stamps, &c.....	546.13
Rent of office, bath house and swill house.....	480.98
Vaccine Points.....	42.50
Physicians Services.....	358.12
Legal services.....	170.00
Water, public urinals, stable, &c.....	170.88
Moving bath house and repairs.....	244.75
Telephone service.....	161.86
Temperature readings.....	134.00
Plans for new stable.....	300.00
Bedding for hospital..	35.41
Insurance stable and horses.....	37.50
Total.....	\$10,489.71

Total pay-roll.....1892	\$24,066.25
“ bills..... “	10,489.71
“ salaries..... “	1,200.00

\$35,755.96

Cost of Engle Cremator.....	7,615.90
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Total.....	\$43,371.86
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Receipts from swill and manure.....	\$ 3,239.93
Appropriations.....1892	41,000.00
Total cost..... “	43,371.86
“ “1891	30,827.28
“ “1890	31,439.86
“ “1889	33,042.66
“ “1888	25,098.84

Schedule of property owned by the city of Lowell, in care of the Board of Health.

Sixteen horses.....	\$2400.00
Twenty-two single harnesses.....	450.00
One pair double harnesses.....	10.00
Nine surcingles.....	10.00
Twelve horse covers.....	30.00
Twenty three blankets.....	40.00
Twenty five curry combs and brushes.....	10.00
Eighteen halters.....	10.00
Eleven single carts.....	550.00
Seven swill wagons.....	350.00
One steel wagon.....	150.00
Fourteen sleds.....	700.00
Two wagons.....	300.00
One hospital wagon.....	50.00
Two buggies.....	100.00
One pung.....	50.00
One sleigh.....	50.00
Three wolf robes.....	25.00
Stable and sheds.....	1200.00
Smallpox Hospital and furniture.....	400.00
Bath House and fixtures.....	1000.00
Two public urinals.....	400.00
Two stoves.....	25.00
One copper tank.....	6.00
One hundred feet rubber hose.....	10.00
Forty five shovels.....	30.00
Twelve ice cutters.....	10.00
Twenty hoes and rakes.....	6.00

Office furniture.....	200.00
Eight tons hay, four hundred bushels oats.....	300.00
Sundry tools and fixtures.....	25.00
Engle Cremator.....	5000.00
Meterological instruments.....	75.00
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Total.....	\$13,972.00

MEMBERS OF THE BOARD OF HEALTH.

YEAR.	CHAIRMAN.	OTHER APPOINTED MEMBERS.	CITY PHYSICIANS, EX-OFFICIO.	AGENT AND SUP'T. OF HEALTH DEPARTMENT.
1878.....	J. W. B. Shaw.....	Michael Hoar.....	L. Huntress, Jr., M. D.	
1879.....	J. W. B. Shaw.....	Michael Hoar.....	E. W. Trueworthy, M. D.	
1880.....	J. W. B. Shaw.....	Michael Hoar.....	E. W. Trueworthy, M. D.	
1881.....	J. W. B. Shaw.....	Nathan Allen, M. D....	E. W. Trueworthy, M. D.	
1882.....	J. W. B. Shaw.....	Nathan Allen, M. D....	W. G. Eaton, Jr., M. D.	Frederick A. Bates.
1883.....	J. W. B. Shaw.....	Wm. M. Hoar, M. D....	W. G. Eaton, Jr., M. D.	Frederick A. Bates.
1884.....	Wm. M. Hoar, M. D....	James J. McCarty, M. D.	W. G. Eaton, Jr., M. D.	Frederick A. Bates.
1885.....	J. W. B. Shaw.....	James J. McCarty, M. D.	John J. Colton, M. D....	Frederick A. Bates.
1886.....	J. W. B. Shaw.....	Nathan Allen, M. D....	John J. Colton, M. D....	Frederick A. Bates.
1887.....	Nathan Allen, M. D....	Charles R. Costello.....	John J. Colton, M. D....	Frederick A. Bates.
1888.....	James B. Field, M. D..	Charles R. Costello.....	J. Arthur Gage, M. D..	Frederick A. Bates.
1889.....	James B. Field, M. D..	Charles R. Costello.....	J. Arthur Gage, M. D..	Frederick A. Bates.
1890.....	James B. Field, M. D..	Charles R. Costello.....	J. Arthur Gage, M. D..	Frederick A. Bates.
1891.....	Charles R. Costello.....	James B. Field, M. D..	Wm. P. Lawler, M. D..	H. H. Knapp.
1892.....	Charles R. Costello.....	James B. Field, M. D..	Wm. P. Lawler, M. D..	H. H. Knapp.

Respectfully submitted,

CHARLES R. COSTELLO.

JAMES B. FIELD.

WM. P. LAWLER.

ANNUAL REPORT

OF THE

INSPECTOR OF MILK AND VINEGAR,

OF THE

CITY OF LOWELL,

FOR THE YEAR 1892.



LOWELL, MASS. :

CAMPBELL & HANSCOM, PRINTERS.

1892.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 17, 1893.

Received and ordered on file.

MICHAEL J. DOWD, *City Clerk.*

REPORT.

*To His Honor the Mayor, and the Board of Aldermen
of the City of Lowell:*

I have the honor to submit my annual report as Inspector of Milk and Vinegar.

The work of the department has been continued in the same lines as last year (from the time of the fitting up of the laboratory in May), by the chemical analysis of all samples of milk, vinegar, and butter taken,—and many that have been brought in.

The duties of the inspector, as defined by statutes under which he acts, are the issuing of licenses, the registration of stores, where milk or oleomargarine is sold, collection and inspection of samples, and the enforcement of the laws in the courts.

The statistics of the office and the details of the work performed will be found under the proper headings.

LICENSES.

The statutes require the milk inspector to license every person who conveys milk or oleomargarine, in carriages or otherwise, for the purpose of selling the same, annually on the first day of May, or within thirty days thereafter, and they shall pay fifty cents for the use of the city.

The statutes also require all stores, booths, stands, or market places, before selling milk or oleomargarine, to register in the books of the inspector and pay fifty cents, which fee is paid but once. Licenses are issued only in the name of owners, and may not be sold, assigned, or transferred. Each license records the name, residence, place of business, number of carriages, or other vehicles used, the name and residence of every driver or other person engaged in the carrying or selling, and the number of the license. The licensee is required to cause his name, the number of his license and his place of business, to be legibly placed on each outer side of all carriages or vehicles used by him in the sale and conveyance of milk or oleomargarine, and to report to the inspector any change of driver or other persons employed; for failure to comply with these requirements, or for selling or exposing for sale from carriages or other vehicles, without first being licensed, a fine of not less than thirty nor more than one hundred dollars may be imposed; for a second offence heavier penalties may be imposed. Failure to register for the sale of milk or oleomargarine, from stores, booth, stand, or market place, is punishable by a fine of not exceeding twenty dollars.

Number of licenses issued to dealers conveying milk by carriage or otherwise for the purpose of sale . . .	141
Number of registrations of store-keepers engaged in the sale of milk	59
Total number of licenses and registrations . . .	200
Amount of money turned over to the city treasurer .	\$100.00

INSPECTION.

It is the duty of the inspector to enter all places where milk is stored or kept for sale, and take samples for analysis. It is the custom of the inspector to take samples from wagons and stores in about the same proportion. There are also a great many samples brought in by citizens, which are analyzed free of charge.

In most instances where milk taken from stores has not been up to the legal standard, warnings have been issued, and in almost every case they caused an improvement in the quality of milk sold. It is the custom to pay for milk taken from stores, but not that taken from wagons.

Total number milk inspections	1,220
Total number warnings sent	38

COMPLAINTS.

THE STATUTES PROVIDE PENALTIES

- For neglecting or refusing to license or register for sale of milk.
- For selling, or exposing for sale, adulterated milk, milk not of standard quality, milk to which water or any foreign substance has been added, milk produced from sick or diseased cows, or milk produced from cows fed on the refuse of distilleries.
- For selling, or offering for sale, as pure milk, milk from which the whole or any part of the cream has been removed.
- For selling skimmed milk, unless from cans or other vessels marked as required by statute.
- For selling, exposing for sale, or possessing with intent to sell, milk or skimmed milk which is not of standard quality,

i. e., containing less than thirteen per cent. of milk solids, in the case of whole milk: or less than nine and three-tenths per cent. of milk solids, exclusive of fat, in case of skimmed milk.

For obstructing in any manner the milk inspector or his assistants in the performance of their duties.

For neglecting or refusing to license or register for the sale of oleomargarine, butterine, etc.

For selling, exposing for sale, or possessing with intent to sell, oleomargarine, butterine, imitation butter, or imitation cheese, unless marked as required by statute.

For selling, exposing for sale, or possessing with intent to sell, oleomargarine, butterine, etc., containing any coloring matter that causes it to look like butter.

For the sale, or exposure for sale, as cider vinegar, vinegar which is not made exclusively of apple cider.

For the sale, or exposure for sale, of vinegar containing any artificial coloring matter, or containing any preparation of lead, copper, sulphuric acid, or any ingredient injurious to health.

For the sale of any vinegar not of standard quality, *i. e.*, containing less than four and one-half per cent. of absolute acetic acid, or, in the case of cider vinegar, containing less than two per cent., by weight, of cider vinegar solids.

It is the duty of the inspector to make complaint for any of the offences thus enumerated which may be brought to his notice as the result of his analysis of samples, or on the information of any person who lays before him satisfactory evidence upon which to sustain such complaint.

CONVICTIONS.

Number of convictions for having in his possession with
intent to sell, milk not of good standard quality 2

In several cases where the milk on the wagons was found to be bad, and warrants were issued, it was found that the fault was not with the milkman, but with the farmer who raised the milk.

The State Inspector was called upon, and the farmer was prosecuted, and the warrant against the milkman withdrawn, it being the intention of the inspector to get at the real culprit.

The following is the average standing of the samples of milk analyzed each month:

TOTAL SOLIDS.

	FROM WAGONS.	FROM STORES.
January . . .	13.46 per cent.	12.74 per cent.
February . . .	13.42 "	13.33 "
March . . .	13.11 "	13.45 "
April . . .	12.98 "	12.52 "
May . . .	12.95 "	12.92 "
June . . .	13.00 "	12.16 "
July . . .	12.85 "	11.95 "
August . . .	12.85 "	12.82 "
September . . .	13.05 "	12.46 "
October . . .	13.02 "	13.36 "
November . . .	12.89 "	12.36 "
December . . .	13.40 "	12.77 "

The supply comes from the surrounding towns, with one car-load per day on railroad from New Hampshire. The sale of skimmed milk has increased during the year. William C. Wing, who gets his supply from D. Whiting

& Sons, of Wilton, N. H., and the Lowell Creamery, whose supply comes from the adjoining towns, sell the greater part of the skimmed milk.

In almost every case the milk on analysis has proved to be fully up to the standard.

That the quality of milk sold in Lowell is much better than that sold in other eastern cities of Massachusetts is shown by the following, taken from the report of the State Board of Health, just issued :

PERCENTAGE BELOW THE STANDARD.

Boston,	43.23 per cent.	Woburn,	90.00 per cent.
Worcester,	21.67 “	Lawrence,	28.16 “
Lowell,	28.97 “	Somerville,	48.78 “
Fall River,	54.13 “	Salem,	34.52 “
Cambridge,	54.59 “	Chelsea,	60.87 “
Lynn,	64.04 “	Haverhill,	46.15 “
Taunton,	31.25 “	Brockton,	52.78 “
Malden,	72.72 “	Newton,	43.24 “
Gloucester,	53.06 “	Fitchburg,	48.65 “
Quincy,	27.77 “	Waltham,	75.00 “
Average for nineteen cities not including Lowell,			49.33
Lowell,			28.97

SWILL MILK.

The inspector had occasion to visit the farm of a milk raiser in an adjoining town, and, while there, found evidence of the feeding of swill to milch cows. The case was reported to the Board of Health, and, with their co-operation and assistance, a plan was formed to visit many of the farms in the surrounding towns, for evidence of swill feeding to milch cows. On the morning of March 29, the inspector, with Mr. John Hall, of the health de-

partment, in one team, and Mr. James Bayles, of the "Citizen," with Mr. Drury, of the humane society, in another, started for Dracut. At the same time, Mr. F. A. Bates, of the health department, and Mr. J. D. Bates, of the "Times," started for Chelmsford.

The inspector with his party inspected twenty-two farms in Dracut, and twelve in Pelham. The milk raised on these farms is sold in Lowell. In two places in Pelham there was abundant evidence of swill feeding, and the sanitary condition was very bad. It being out of the state, no criminal prosecution could be brought. The parties were, however, warned that the milk could not be sold in Lowell, if the swill feeding continued. The other places visited in Pelham were mostly in good sanitary condition, and some of them were almost perfect from a sanitary point of view.

Of the places visited in Dracut, seven of them showed positive evidence of swill feeding, and at these places the sanitary condition was bad, while of the others, most of them were in a fair condition.

The party that went to Chelmsford, Carlisle, and Tewksbury found no direct evidence of swill feeding, although some places looked suspicious. They visited a large number of places.

As a result of this raid, the Hon. Charles S. Lilley was engaged by the Board of Health, and warrants were sworn out against the following persons, under chapter 326 of the Acts of 1889: Whittier Bros., Sumner Parker, Bernice Parker, Stickney Bros., D. N. Cluff, E. S. Fox, and C. H. Dennison, all of Dracut.

At the trial in the Police Court, before His Honor Judge Frye, the case of Stickney Bros. was *not prossed*;

Whittier Bros. and Bernice Parker were acquitted; Sumner Parker, D. N. Cluff, E. S. Fox, and C. H. Dennison were convicted, and fined \$50 each, from which sentence they appealed. In the upper court, C. H. Dennison's case was *not prossed*, from some defect in the indictment. In the cases of S. Parker, D. N. Cluff, and E. S. Fox, they pleaded guilty, and paid a nominal fine.

The result has been to stop the practice of swill feeding to milch cows in Dracut.

The inspector is of the opinion that it has been done to some extent in Pelham, but now that the crematory is in running order, there will be no swill sold, and, of course, none fed to cows, unless it is brought from other places.

The inspector has, from time to time, visited the milk farms in the adjoining towns, and while as a rule, they were in very good sanitary condition, in some cases they were very bad; all, however, promised an improvement.

At the time of the "cholera scare" in August and September, the inspector issued the following circulars, and had them placed in the hands of every milk raiser for this city:

OFFICE OF THE INSPECTOR OF MILK, }
LOWELL, Sept. 7, 1892. }

TO THE PRODUCERS OF MILK.

Everywhere on the Atlantic seaboard, the health authorities are doing what they can to prevent the entry of Asiatic cholera into this country. The disease is at the doors of New York; it may at any moment make its appearance among us.

The precautions that are taken by the Board of Health of the City of Lowell, must be supplemented by the people.

You are cautioned therefore to exercise especial care in the production of your milk. See that your barns and their en-

vironments are kept scrupulously clean and free from decaying vegetables or organic matter. Use disinfectants freely; but the best of all disinfectants is cleanliness. Have your milk cans thoroughly scalded and cleansed. The wooden stoppers should be steeped in boiling water and then scoured. It will be better still if you envelope them in clean cotton cloth or gauze every time you use them.

You cannot be too cleanly or too careful, for milk is declared to be one of the most dangerous sources of infection.

THOMAS O. ALLEN,

Inspector of Milk.

VINEGAR.

The vinegar sold in the stores in Lowell is of good quality. There have been no complaints made to the office, and the samples analyzed have been fully up to the legal standard.

OLEOMARGARINE.

The inspector has had a good deal of trouble with this product. After the law of Nov. 10, 1891, went into effect, the inspector notified all dealers to stop selling. They did so for a time. Several cases were brought by the milk inspector of Boston, and pending these cases, some of the dealers in Lowell sold. After the decision in these cases (which was against the oleo. people) the retailers stopped selling, and have sold none since that time.

The wholesale dealers have sold in the original package of not less than ten pounds, claiming that under the United States laws they had a right to sell. The inspector did not like to take the responsibility of prosecuting them

without legal advice. On consultation with His Honor the Mayor, it was decided to ask the opinion of the Hon. Chas. S. Lilley.

Following is his opinion:

LOWELL, MASS., Dec. 19, 1892.

MAJ. THOMAS O. ALLEN, Inspector of Milk, City of Lowell.

DEAR SIR:—I have considered the question recently referred to me by your department for an opinion and beg to submit the following:

The question concisely stated is this: Can a person living in this commonwealth import from another state a package of oleomargarine which is wholesome, palatable, and nutritious, and which is duly marked, stamped and labelled as required by law, but which contains coloring matter giving it the appearance of yellow butter, and sell it in the original package to a citizen of Lowell, notwithstanding section 1, of chapter 58, of the Acts of the year eighteen hundred and ninety-one? This section is as follows:

“No person, by himself or his agents or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product, or compound made wholly or partly out of any fat, oil, or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same; *provided*, that nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter.”

It is plain that the object of the section stated in general terms is to prohibit the manufacture and sale of compounds which are in imitation of yellow butter produced from pure unadulterated milk or cream of the same; the proviso permits the manufacture and sale of oleomargarine in such manner and form as will advise the consumer of its real character, it being free from coloration or ingredient that causes it to look like butter. In other words, oleomargarine subject to the requirements of law relating to marking, stamping and labelling may

be manufactured and sold as oleomargarine if it does not look like yellow butter, while its manufacture and sale are prohibited if it does look like butter. It will be observed that the proviso merely states concerning oleomargarine what is clearly implied with respect to the other compounds mentioned in the section. If they are not imitations of yellow butter they may be manufactured and sold.

This section has been the subject of judicial interpretation in this commonwealth, and in the opinion of a majority of the justices of our Supreme Judicial Court in *Commonwealth v. Huntley*, *Northeastern Reporter*, vol. 30, page 1127, its enactment is a valid exercise of the police power which remains in the several states, and is not in violation of the constitutional provision giving to Congress the power to regulate commerce among the several states, and the conviction of the defendant Huntley, who had been found guilty in the Superior Court of selling oleomargarine contrary to the terms of this section was affirmed.

In the opinion, however, the court say alluding to the case of *Leisy v. Hardin*, hereinafter referred to, "We wish and are bound to conform to that decision, and to adopt the change which it has made in the law as heretofore understood in this commonwealth to the extent that the decision goes, either in express terms or by necessary implication. If, however, any further step is to be taken in that direction, it is better that it should be done by the tribunal which can declare and settle the law for all states alike, than for us to make a decision not sanctioned by our own convictions, and perhaps not required by the views of constitutional rights and obligations entertained by the tribunal of last resort."

The minority of the court do not agree with the views of the majority, and in a dissenting opinion written by Mr. Justice Knowlton say, "If it (oleomargarine) is a proper article of commercial traffic, our legislature has no jurisdiction to legislate against the importation and sale of it in the original packages; and if st. 1891, c. 58 be deemed a declaration that it is not an article of commerce, the declaration being one which the legislature had no authority to make, is of no effect. * * *

* It seems to me that oleomargarine, legally manufactured, which is absolutely unobjectionable, except that by reason of

its resemblance to butter dishonest persons may sell it for butter is as much a subject for commercial dealings as anything else which is bought and sold among merchants. * * * * I will not discuss the question whether the statute should be held unconstitutional, or merely imperative and in abeyance, so long as commerce in oleomargarine is left by Congress unrestricted."

In *Leisy v. Hardin*, 135 U. S. 100, popularly known as the "original package case," the Supreme Court of the United States in an elaborate and exhaustive opinion in which numerous authorities are cited, held as follows:

"A citizen of one state has the right to import beer into another state, and the right to sell it there in its original packages.

"Up to such sale the state has no power to interfere, by seizure, or by any other action, to prevent importation and sale by foreign or non-resident importer.

"The right of transportation of an article of commerce from one state to another, includes the right of the consignee to sell it in unbroken packages at the place where the transportation terminated.

"It is only after the importation is completed and the property imported is mingled with and becomes a part of the general property of the state by a sale by the importer, that state regulations can act upon it.

"The power vested in Congress to regulate commerce among the states cannot be stopped at the external boundary of a state, but is capable of authorizing the disposition within the state of the article imported.

"Commerce between the states has been confided exclusively to Congress by the Constitution and is not within the jurisdiction of the police power of the state, unless placed there by congressional action.

"A law of a state which forbids the receipt of an imported commodity or its sale before it has ceased to be an article of trade between one state and another, is a regulation of commerce between the states, and is void."

In this case the Court also held that "the absence of a law by Congress as to any article of commerce is equivalent to its declaration that the importation of that article into the states

shall be unrestricted; and it is for the courts to determine what state action is or is not a regulation of such commerce."

At the time of this decision, April 28, 1890, there was no law of Congress prohibiting or restricting the importation of intoxicating liquor into the states or allowing the states to prohibit such importation, or the sale of such liquors by the importer when imported. Subsequently, and evidently to meet the difficulties in regulating the liquor traffic presented by this case, Congress by an act approved August 8, 1890, the same being chapter 728 of the Acts of the first session of the Fifty-first Congress, provided that intoxicating liquors transported into any state should upon arrival therein be subject to the operation and effect of the laws of such state enacted in the exercise of its police powers to the same extent as though such liquors had been produced in such state, and should not be exempt therefrom by reason of being introduced therein in original packages or otherwise."

By an act of Congress approved August 2, 1886, the same being chapter 840 of the Acts of the first session of the Forty-ninth Congress, oleomargarine, with or without annatto or other coloring matter made in imitation or semblance of butter, or calculated or intended to be sold as butter or for butter is expressly recognized as a merchantable commodity and the subject of commerce among the states; the manner and form in which it shall be packed and sold is regulated, and manufacturers of, and wholesale and retail dealers in oleomargarine, are required to pay special tax the amount of which is fixed by the act.

One Charles McAllister was convicted in the state courts of Maryland in the current year of the offence of selling oleomargarine in violation of article 27, section 90 of the Public General Laws of that state, which is as follows:

"No person shall manufacture, mix or compound with, or add to natural milk, cream or butter, any animal fats or animal or vegetable oils; nor shall he make or manufacture any oleaginous substance not produced from milk or cream, with intent to sell the same for butter or cheese made from unadulterated milk or cream, or have the same in his possession, or offer the same for sale with such intent; nor shall any article or substance or compound so made or produced be sold intentionally

or otherwise as and for butter or cheese, the product of the dairy. No person shall coat, powder or color with annatto or any coloring matter whatever, butterine or oleomargarine or any compound of the same or any product or manufacture made in whole or in part from animal fats, or animal or vegetable oils not produced from unadulterated milk or cream, whereby the said product, manufacture or compound shall resemble butter or cheese, the product of the dairy, or shall have the same in his possession with intent to sell the same, or shall sell or offer the same for sale. No person shall be excused from liability under this section of the preceding section on account of want of knowledge of the nature of the ingredients of the product so in his possession, sold or offered for sale by him.

Whoever violates any of the provisions of this section shall be guilty of a misdemeanor, and be punished by a fine of not less than one hundred nor more than one thousand dollars."

This section, though somewhat more comprehensive, is substantially the same as the one under consideration, it will be observed. Pursuant to the order of the state court and in default of bail McAllister was imprisoned, and applied to the Circuit Court of the United States for the district of Maryland for a writ of habeas corpus. It appeared that McAllister received a package of oleomargarine which was duly marked, stamped and labelled from certain persons in Chicago, had it in his possession and sold it as he received it to a citizen of Baltimore. For this sale he was indicted and convicted as aforesaid.

The Circuit Court held June 11, 1892, the decision being subsequent to that in *Commonwealth v. Huntley*, that this section under which McAllister was convicted was, as to original packages of oleomargarine, an interference with interstate commerce and therefore unconstitutional and ordered his release.

In *re McAllister* Federal Reporter, vol. 51, page 282, opinion by Bond, circuit judge:

The decision in this case seems to be in harmony with the principles stated in *Leisy v. Hardin* and a long line of decisions by the Supreme Court of the United States, and one may with reason suppose that it would be affirmed by that court.

While this (the Circuit Court) is not a court of final jurisdiction its opinions are entitled to respect and would doubtless be accorded weight in this commonwealth.

It seems to me that the subject of inquiry presents a federal question, and that while under the decision in *Commonwealth v. Huntley* a complaint or indictment will lie against persons who sell oleomargarine contrary to the terms of said chapter 58, section 1, though it be in the original package in which they import it into this commonwealth, it is a question of expediency to be decided solely by your department whether prosecutions of such persons should be instituted in view of the fact that the court in that case was divided, the intimation in the majority opinion which I have referred to, and pending the construction of the statute by a federal court of final jurisdiction.

Yours respectfully,

(Signed) C. S. LILLEY.

In conclusion I desire to thank His Honor, Geo. W. Fifield, the agent, and members of the Board of Health for their assistance and encouragement in the discharge of my duties.

Respectfully submitted,

THOS. O. ALLEN.

ANNUAL REPORT
OF THE
SUPERINTENDENT OF STREETS

OF THE
CITY OF LOWELL,

FOR THE YEAR 1892.



LOWELL, MASS.:
CAMPBELL & HANSCOM, PRINTERS.
1893.

CITY OF LOWELL.

IN COMMON COUNCIL, January 24, 1893.

Received and ordered on file. Sent up for concurrence.

FRANK J. SIMONDS, *Clerk.*

IN BOARD OF ALDERMEN, February 3, 1893.

Received and ordered on file in concurrence.

MICHAEL J. DOWD, *City Clerk.*

REPORT.

*To the Honorable the Mayor and the City Council of the
City of Lowell:*

In accordance with the requirements of the city ordinances, I hereby most respectfully submit the following report of the departments under my charge, viz: Roads and Bridges, Pawtucket Boulevard, Paving, Street Watering, and Sewers and Drains, for the year ending December 31, 1892.

ROADS AND BRIDGES.

GENERAL STATEMENT OF RECEIPTS AND EXPENDITURES.

RECEIPTS.

Appropriation.....	\$75,000.00
Loan.....	22,000.00
Transfer from Reserve Fund.....	3,000.00
From sale of Land.....	4,426.00
Receipts from all other sources.....	25,409.85
Total receipts.....	\$129,835.85

EXPENDITURES.

Labor as per pay rolls.....	\$82,442.31
Salary of Superintendent.....	1,800.00
Salary of City Engineer.....	2,500.00
Land, Damages, etc.....	930.56
Hay, Grain, etc.....	7,514.55
Iron work on Jefferson Street Bridge (under contract of 1891).....	1,998.17
All other purposes.....	25,361.56
Total expenditures.....	\$122,547.15
Transfer to Paving appropriation.....	\$4,000.00
Balance on hand December 31, 1892.....	\$3,288.70

STREETS LAID OUT AND ACCEPTED IN 1892.

STREETS.	BETWEEN WHAT STREETS.	LENGTH
		IN FEET.
Beaver.....	Lakeview Avenue and Beaver Brook	532.8
C.....	Powell and Puffer.....	1,019.83
Eighteenth.....	Beacon and Humphrey.....	286.0
Elliot.....	Middlesex and Appleton.....	220.27
Foster.....	Marginal and Middlesex.....	223.25
Holyrood Avenue..	Butman Road and Laurel.....	1,833.0
Hovey.....	Wentworth Ave. and Butman Road	714.2
Humphrey.....	Extended 677.0 feet northerly....	677.0
Ludlam.....	Barker Avenue and Bridge.....	489.85
Marginal.....	Stevens and Foster.....	1,213.75
Mason.....	Powell and Smith.....	139.0
Oakland.....	Pine and Parker.....	749.94
Perry.....	Rogers and Fort Hill Park.....	1,338.33
Perry.....	Pond and Rogers.....	1,641.30
Princeton.....	Stevens and Livingston Avenue....	905.45
Prospect.....	Kidder and Central.....	171.7
Phillips.....	Marsh and Sargent.....	150.71
Revere.....	Jackson and Middlesex.....	198.0
Shaffer.....	Walker and Broadway.....	552.5
Third St. Extension	Beacon and Llewellyn.....	432.7
Warwick.....	Liberty and Mason.....	931.31
Total.....		14,420.89
Number of miles of accepted streets, Jan. 1, 1892.....		108.85
Number of miles of streets accepted in 1892.....		2.73
Number of miles of accepted streets, Jan. 1, 1893....		111.58

SIDEWALKS.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
Broadway ..	North side Walker and land of Daniel Lovejoy.....	10.1	219.1	162.8
Bachelder Place	Both sides.....	18.3	338.6	
*Bartlett....	North side, in front of premises of St. John's Hospital.....	9.9	238.8	
Congress....	South side, Gorham and Thorndike.....			155.7
Chelmsford..	Both sides, Howard and Midland.....	231.2	8833.1	
Decatur	East side, in front of prem- ises of Paul Vigeant...		35.4	
Fremont	West side, Sixth, northerly			181.6
Fort Hill Av	West side, in front of prem- ises of Alice E. Murphy	9.0	101.2	
Harvard.....	East side, Princeton and Troy.....	39.3	500.4	
Hamblet and Lakeview Av	At Town line.....		83.9	
Jefferson....	Both sides, Suffolk and Lewis.....			46.7
Leverett....	Both sides.....	9.1	1261.6	

* Unfinished.

SIDEWALKS.—CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
Mt. Hope..	East side, in front of prem- ises of Geo. C. Osgood..		230.2	
Merrill....	East side from land of Percy Parker, to southerly end of the street.....		199.4	
* Meadow- croft....	West side, Moore and rail- road bridge.....	9.7	223.1	
Mason....	Both sides, South Loring and South Walker.....		380.0	235.1
Marginal....	South side, Wilder and Stevens.....	22.1	647.1	
Mill.....	South side, Central and Lawrence	9.8	280.7	
Oakland....	West side, Pine and Wilder	18.9	263.3	165.4
Powell....	West side, Mason and Lib- erty		570.6	
* Princeton..	Both sides, Stevens and Livingston Avenue.....	9.6	1206.0	184.9
Pleasant....	East side, in front of prem- ises of James Reilly....		100.0	
Palmer....	East side, Merrimack and City Hall Avenue.....			49.6

* Unfinished.

SIDEWALKS.—CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
Phillips.....	West side, Broadway and near Marsh.....		220.2	132.0
Perry	East side, Rogers and Sherman	19.3	464.3	
Perry	West side, in front of prem- ises of White Bros. & Co.		150.2	
Riverside ...	North side, in front of prem- ises of Geo. C. Osgood..	10.2	93.4	
Richmond..	South side, in front of prem- ises of Patrick Lynch...			42.7
School.....	West side, Marsh and Sar- gent.....	18.6	173.1	124.7
Stevens.....	East side, Marginal and Middlesex	10.4	313.9	
SouthWalker	East side, Liberty and D	8.9	366.3	622.5
Sherman....	North side, Pleasant and High	19.8	209.0	
Sherman....	South side, in front of prem- ises of Alice E. Murphy.		58.2	
Sixth.....	North side, from near Beech to Fremont.....			117.4

SIDEWALKS.—CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	LIN. FT. CORNER STONE.	LIN. FT. EDGE- STONE.	SQ. YDS. CON- CRETE.
Thorndike ..	East side, premises of Geo. Runels, and Highland St.	14.6	859.9	
Talbot	North side, from land of Mrs. David Nichols to land of J. W. B. Shaw..		148.4	
Union.....	South side, Central and Chapel.....	18.0	199.5	117.6
Westford ...	South side, Bellevue and Chelmsford.....	37.0	660.3	
Willie.....	West side, from Broadway northerly in front of premises of James and Denis O'Brien.....		48.7	33.4
Whipple....	East side, Central and Watson.....	34.9	759.1	
*Wentworth Ave.	East side, Andover and Laurel.....	78.5	2684.2	
	Total	667.2	23121.2	2372.1

* Unfinished.

STREETS GRADED.

STREETS.	STREETS.
A	Harvard
Agawam	High
Aiken	Hudson
Ames	Keene
Bridge	Lane
Butterfield	Laurel
Chelmsford	Lawrence Street Court
Chestnut	Leverett
Cross	Lilley Avenue
Elliot	Lincoln
Elm	Linden
Everett	Loring
Fairview Avenue	Mammoth Road
Floyd	Marginal
Forrest	Mason
Fred	Middlesex
Garnet	Newhall
Gates	North
George	Oak

STREETS GRADED.—CONCLUDED.

STREETS.	STREETS.
Oakland	South Walker
Pawtucket	South Wilder
Pearl	Stackpole
Pine	Stevens
Powell	Tanner
Princeton	Thorndike
Riverside	Walnut
Rogers	Warren
School	Wentworth Avenue
Shaffer	Westford
Sixth	West Sixth
Smith	Wilder
South	

MACADAMIZING.

STREETS.	BETWEEN WHAT STREETS.	
Fayette	East Merrimack and Stackpole..	
Highland.....	South and Thorndike.....	
Middlesex.....	Foster to Black Brook.....	
Thorndike.....	Appleton to County Jail.....	
West Fourth.....	Bridge and Jewett.....	

MACADAMIZING STREETS — TOP-DRESSED.

STREETS.	STREETS.
Aiken	North
Appleton	Pawtucket
Cabot	Smith
Cross	Union
Marion	

COBBLE STONE GUTTER PAVING.

STREETS.	SQ. FEET.
Abbott.....	3,336
Bowers.....	1,487
Cedar.....	5,004
Chestnut.....	1,500
Eighteenth.....	1,525
School.....	2,655
Talbot.....	1,125
Thorndike.....	3,700
Union.....	788
Total, 21,120 square feet or 2,346 2-3 square yards.	

CONCRETE SIDEWALKS REPAIRED.

STREETS.	BETWEEN WHAT STREETS.	SQ. YARDS.
Austin.....	West side, Merrimack and Moody.....	114.9
Arlington.....	West side, at Bowers Street.....	26.2
Bridge.....	East side, near Sixth Street.....	129.6
Durant.....	South side, east end of street.....	76.9
East Merrimack.	North side, Bartlett and Brown.....	230.9
Fayette	West side, near East Merrimack.....	8.0
Grand	East side, in front of No. 62.....	12.6
High.....	West side, in front of No. 29.....	29.0
Lane.....	Both sides.....	12.2
Pleasant.....	Both sides, near Pond Street.....	20.8
Pawtucket.....	North side, near Ayer Home for Young Women and Children	21.5
School.....	East side, at Bowers Street.....	4.8
South Whipple..	West side, at Lawrence Street.....	3.3
Sixth	South side, near Bridge Street	44.5
	Total	735.2

CONCRETE PAVING.

STREETS.		SQ. YARDS.
Pawtucket.....	.....	1,275.4

CONCRETE SIDEWALKS TOP DRESSED.

STREETS.	BETWEEN WHAT STREETS.	SQ. YARDS.
Adams	East side, Broadway and Cross.....	40.9
Austin	East side, Merrimack and Moody.....	22.2
Branch	South side, at Nichols Street.....	95.0
Branch	South side, at Dover Street.....	233.0
Branch	North side, from No. 63 westerly.....	196.4
Bridge	West side, at Harrison Avenue.....	37.3
Broadway	West side, near Willie Street.....	65.8
Butterfield.....	North side, in front of No. 7.....	41.9
Central.....	West side, near Appleton.....	68.8
Coburn.....	East side, at Lakeview Avenue.....	5.6
Common	West side, in front of Morrill School...	18.3
Dover.....	East side, in front of premises of Hon. John J. Donovan.....	10.3
East Merrimack.	Crossing at Nesmith Street	24.1
Fayette	East side, near Everett Street.....	95.7
Fletcher	West side, in front of Old Ladies' Home	34.1
Highland	Crossing, west of Edson School.....	38.8
Lakeview Ave...	North side, at Coburn Street.....	55.7

CONCRETE SIDEWALKS TOP DRESSED — CONTINUED.

STREETS.	BETWEEN WHAT STREETS.	SQ. YARDS.
Lawrence.....	West side, near Richmond Street.....	2.1
Middlesex.....	North side, in front of premises of James Boyle.....	44.8
Middlesex.....	South side, at Thorndike Street.....	79.6
Nichols	West side, near Branch Street.....	41.3
Prescott	South side, near Central Street.....	93.1
Rock	North side, in front of premises of Chas. H. Hanson.....	12.3
Thorndike.....	East side, at Middlesex Street.....	101.7
Worthen	East side, Kitson and Broadway.....	15.8
West Sixth.....	North side, in front of Engine House...	12.6
West Sixth.....	South side, in front of premises of Daniel Gage.....	11.1
	Total	1,498.8

GRANITE CROSSINGS.

STREETS.	STREETS.
Across Alder	At Bartlett.....
“ Bowers	“ Mt. Vernon.....
“ Bridge.....	“ Geo. H. Marston's residence
“ Central.....	“ Abbott.....
“ Central.....	“ Lyons
“ Chelmsford	“ Hale.....
“ Common	“ Cross
“ Eleventh.....	“ James F. Savage's residence
“ Kittredge Avenue.....	“ Bridge
“ Lawrence.....	“ Charles.....
“ Lewis	“ Jefferson
“ Mason.....	“ Powell
“ May	“ Thirteenth.....
“ Middle.....	“ Palmer.....
“ Middlesex	“ Canton.....
“ Middlesex	“ Harvard
“ Middlesex	“ Queen.....
“ Nesmith	“ Thomas Costello's residence

GRANITE CROSSINGS — CONTINUED.

STREETS.	STREETS.
Across New School.....	At Powell.....
“ Private Way.....	“ Hudson
“ Richmond.....	“ Lawrence
“ Sherman	“ Hanks
“ Suffolk	“ Jefferson
“ Swift.....	“ Lawrence
“ Twelfth.....	“ May
“ Varnum	“ Seventh

BRIDGES.

THE FOLLOWING IS A LIST OF BRIDGES IN THE ACCEPTED STREETS, AND BY WHOM MAINTAINED.

STREETS.	LOCATION.	MATERIAL.	MAINTAINED BY
Chelmsford.....	B. and M. R. R. Co. (Lowell system).	Iron.....	Boston and Maine Railroad Co.
Hale.....	B. and M. R. R. Co. (Lowell system).	Iron.....	Boston and Maine Railroad Co.
Wilder.....	B. and M. R. R. Co. (Lowell system).	Wood.....	Boston and Maine Railroad Co. and City.
Church.....	Concord river.....	Stone.....	City.
East Merrimack.	Concord river.....	Wood.....	City.
Lawrence.....	Concord river.....	Wood.....	City.
Rogers.....	Concord river.....	Stone.....	City.
East Merrimack.	Eastern canal.....	Wood.....	Locks and Canals Co.
Bridge.....	Eastern canal.....	Wood.....	Locks and Canals Co.

BRIDGES. — CONTINUED.

STREETS.	LOCATION.	MATERIAL.	MAINTAINED BY
Market.....	Merrimack canal	Wood	City.
Merrimack.....	Merrimack canal	Stone and Brick.	Locks and Canals Co. and City.
Aiken	Merrimack river.....	Iron	City.
Bridge.....	Merrimack river.....	Iron	City.
School.....	Merrimack river.....	Iron	City.
Cabot.....	Northern canal	Wood	City.
Pawtucket.....	Northern canal	Wood	Locks and Canals Co.
School.....	Northern canal	Brick and Stone.	Locks and Canals Co.
Suffolk.....	Northern canal	Wood	Locks and Canals Co.
Broadway	Pawtucket canal.....	Wood	Locks and Canals Co.

BRIDGES. — CONTINUED.

STREETS.	LOCATION.	MATERIAL.	MAINTAINED BY
Central.	Pawtucket canal.	Wood	Locks and Canals Co.
Pawtucket.	Pawtucket canal.	Wood	Locks and Canals Co.
School	Pawtucket canal.	Wood	Locks and Canals Co.
Thorndike	Pawtucket canal.	Wood	Locks and Canals Co.
Cambridge.	River Meadow brook.	Wood	City.
Congress	River Meadow brook.	Wood	City.
Gorham.	River Meadow brook.	Wood	City.
Howard.	River Meadow brook.	Stone	City.
Lawrence	River Meadow brook.	Wood	City.
Lincoln	River Meadow brook.	Stone	City.

BRIDGES. — CONTINUED.

STREETS.	LOCATION.	MATERIAL.	MAINTAINED BY
Newhall	River Meadow brook.....	Iron	City.
Plain (2).....	River Meadow brook.....	Wood	City.
Broadway	Western canal	Stone	City.
Dutton.....	Western canal	Wood	City.
Hall (Private St)	Western canal	Wood	Lawrence Manufacturing Co. and Tremont and Suffolk Mills.
Jefferson	Western canal	Iron	City.
Market.....	Western canal	Wood	City.
Merrimack.....	Western canal	Wood	Locks and Canals Co. and City.
Moody.....	Western canal	Wood	City.

BRIDGES. — CONTINUED.

STREETS.	LOCATION.	MATERIAL.	MAINTAINED BY
Worthen	Western canal	Wood	City.
Lawrence.....	Wamesit canal.....	Wood	Wamesit Power Co.

ANNUAL REPORT OF THE
PAVING DEPARTMENT.
GRANITE BLOCK PAVING.

The following is a report of the financial account, and also the work done by this department, the past year:—

RECEIPTS:

Loan	\$25,000.00	
Transfer from Street Appropriation..	4,000.00	
Receipts from various sources.....	77.33	
		<u>\$29,077.33</u>

EXPENDITURES:

Labor as per pay roll.....	\$ 6,464.56	
Granite paving blocks.....	16,689.39	
Sand	60.25	
Teaming.....	2,548.00	
All other purposes.....	3,250.58	
		<u>\$29,012.78</u>
Balance on hand December 31, 1892		<u>\$64.55</u>

STREETS PAVED.

STREETS.	BETWEEN WHAT STREETS.	SQ. YARDS.
Fayette.....	End of paving laid in 1891 and Andover Street.....	1,628.6
Lakeview Ave...	East side, Stanley and Town line, west side, from Boyle's estate 1,467.0 feet northerly	8,250.3
Lawrence.....	Church and Wamesit.....	4,750.16
	Total.	14,629.06

PERSONAL PROPERTY.

The following is a schedule of Personal Property, under my charge December 31, 1892, belonging to the Department of Roads and Bridges:—

1 engine and tools (at crusher) \$ 500.00	22 double carts..... 2,200.00
1 stone crusher..... 650.00	11 single carts..... 440.00
1 blacksmith shop and tools (at ledge)..... 150.00	8 driving wagons 625.00
1 crusher building..... 300.00	1 hand cart..... .. 10.00
Stock and tools in repair shop (at yard).. 500.00	2 stone trucks..... 150.00
Stock and tools in harness shop (at yard). 150.00	17 double sleds..... 765.00
1 iron road roller..... 75.00	2 single sleds..... 60.00
1 stone road roller.... 125.00	4 driving sleighs..... 200.00
1 15-ton steam road roller 4,000.00	2 new sled bodies..... 30.00
3 street sweepers 400.00	2 snow plows..... 20.00
1 sprinkling cart..... 200.00	7 snow scrapers 28.00
2 road builders..... 300.00	46 horses..... 8,450.00
1 committee wagon with runners..... 100.00	17 set double harness.. 765.00
2 lumber wagons..... 175.00	56 horse collars 112.00
4 wood wagons..... 200.00	50 halters..... 50.00
1 truck wagon..... 50.00	94 blankets..... 211.50
	48 surcingles..... 15.36
	5 horse covers..... 10.00

PERSONAL PROPERTY. — CONTINUED.

6 heavy robes.....	65.00	20 lanterns.....	7.00
6 lap robes.....	15.00	47 lantern globes (white)	3.00
2 carriage boots	3.00	4 stone drags.....	20.00
2 fly nets	3.00	2 plows.....	10.00
1 large platform scales	200.00	10 wheelbarrows.....	30.00
1 small platform scales	12.00	2 derricks.....	100.00
1 row boat.....	10.00	5 stoves.	50.00
39 feet edgestone.....	12.09	8 office chairs	20.00
62 feet circle stone....	40.06	1 office desk.	5.00
50 feet flagging.....	15.50	3 coal hods.....	.75
11 tons egg coal.....	66.00	59 street signs.....	17.70
50 bushel oats	23.00	1 50-ft. extension ladder	10.00
40 gals. electric oil....	3.00	2 50-ft. tape measures.	2.00
12 tons hay.....	210.00	10 tool chests	40.00
12 tons straw.....	240.00	11 chains	22.00
24 feed baskets.....	12.00	200 bundles broom stuff	12.00
2 blanket chests	10.00	2 electric batteries....	40.00
60 curry combs, cards and brushes.....	36.00	4 spirit levels.....	8.00
2 hay cutters.....	12.00	3 clocks	7.00

PERSONAL PROPERTY. — CONTINUED.

5 street rakes	1.25	8 drilling spoons	2.00
6 hay forks	3.00	110 feet steel drills	56.16
3 manure forks	2.25	8 oil cans	3.20
26 crow bars	26.00	10 horse pails (wood)	2.70
61 snow shovels	30.50	8 horse pails (iron)	3.55
122 shovels	30.50	1 ice chisel . . . . .	.50
7 axes	4.20	53 stone-cutters' points	15.90
1 adze	1.00	27 hoes	8.10
1 scythe	1.50	2 hand saws	1.50
1 set tackle and falls	6.00	2 cross cut saws	3.00
4 long handle shovels	2.00	1 hatchet . . . . .	.50
2 steel frost wedges	1.50	9 wheelbarrows, wood (new)	14.00
5 trowels	2.50	133 ft. oak (lumber)	4.62
9 paving mauls	27.00	500 ft. 2 in. spruce plank	9.00
82 picks	56.17	30 pick handles	3.75
2 feather dusters	1.50	5 stone hammers	10.00
5 office brooms	1.25	1 stone hammer, 32 lbs.	2.00
1 heavy tub . . . . .	.75	8 striking hammers	12.80
1 monkey wrench . . . . .	.50		

PERSONAL PROPERTY. — CONTINUED.

2 hand hammers.....	1.50	32 splitting wedges ....	.80
2 brick hammers .....	.75	1 pinch bar	1.00
5 paving hammers	5.00	12 stone rakes.....	1.63
11 sledge hammers....	22.00	1 sickle .....	.25
1 blacksmith hammer..	2.00	1 large crow bar.....	1.00
100 exploders.....	3.75	2 post-hole scoops....	1.50
50 lbs. forcite	15.00	1 coal basket.....	.50
1 ton blacksmith coal..	6.00	28 red globes.....	7.00
3 meal buckets.....	1.50	75 stake chains.....	15.00
1 sand screen.....	4.00	50 bushels corn.....	31.25
1 set heavy falls and rope	12.00	6 bushels meal	3.60
8 tamping bars.....	5.00	6 bushels shorts.....	2.00
30 plug drills.....	4.50	98 ft. drag plank.....	7.84
3 squares.....	2.25	2 new drags	10.00
3 powder cans.....	1.50	Total.....	\$23,931.73

ANNUAL REPORT OF THE
SEWERS AND DRAINS.
FINANCES.

RECEIPTS :

Balance on hand January 1, 1892.....	\$ 949.71	
Appropriation.....	15,000.00	
Loan	50,000.00	
Transfer	5,132.01	
Receipts from various sources.....	17,939.43	
		<hr/> \$89,021.15 <hr/>

EXPENDITURES :

Labor as per pay rolls.....	\$58,573.43	
Teaming, material, etc.....	30,447.72	
		<hr/> \$89,021.15 <hr/>

PERSONAL PROPERTY.

The following is a schedule of Personal Property under my charge December 31, 1892, belonging to the Department of Sewers and Drains:

1 Hoadley engine.....	\$ 400.00	4 18-inch Clapp grate traps.....	\$12.80
1 Webb-Watson engine	1,000.00	4 single harnesses.....	100.00
2 steam derricks and rigging	300.00	53 catch basin steps...	6.47
1 boiler.....	100.00	1 50-ft. tape measure..	1.00
2 submerged pumps...	300.00	9 sets shear poles	90.00
2 pile drivers.....	150.00	4 crabs.....	52.00
1 pile driving frame...	25.00	4 sets tackle and falls..	30.00
2 steam drills	400.00	5 oil cans.....	2.50
4 electric batteries	80.00	4 hoes.....	1.00
400 ft. hydrant hose...	12.00	29 lanterns.....	7.25
5 marine pumps	100.00	90 picks.....	54.00
2 rubber diaphragms ..	4.00	20 drills and points ...	3.00
4 horses	750.00	9 hand saws.....	6.75
1 wagon	100.00	2 cross-cut saws.....	2.00
3 carts	150.00	6 hand hammers.....	6.00
2 sleds	80.00	164 shovels.....	67.24
1 set edgestone castings.....	20.00	5 trowels	2.50

PERSONAL PROPERTY. — CONTINUED.

4 adze.....	4.00	3 pair stone dogs	6.00
12 crow bars.....	12.00	3 long handle shovels..	1.50
4 monkey wrenches....	2.00	4 dualin heaters.....	12.00
3 water-gate wrenches.	3.00	6 100-lb. iron mauls ..	15.00
14 tool chests.....	70.00	3 powder cans.....	1.50
7 spirit levels	10.50	20 pick handles.....	3.80
492 feet steel drills...	247.64	4 hatchets.....	1.00
20 drilling spoons.....	5.00	3 axes.....	1.50
18 tag ropes	8.55	31 striking hammers...	49.60
12 heavy chains	24.00	9 jacks.....	36.00
13 sheathing caps.....	26.00	14 stone hammers.....	28.00
8 calking irons	4.00	6 frost hammers.....	12.00
3 blacksmith shops and tools.....	125.00	1 spade.....	.50
6 drilling guns	3.00	2 band sticks.....	1.00
1 timber grapple	1 50	4 meal buckets.....	.2.00
6 iron pails	3.00	3 sheathing dogs.....	3.00
20 wooden pails	5.00	8 tampers.....	2.00
4 water pails.....	2.00	1 mallet.....	.40
6 wheelbarrows.....	6.00	1 oiler.....	25
16 wooden mauls.....	20.00	500 feet garden hose..	25.00

PERSONAL PROPERTY. — CONTINUED.

21 20-in. Clapp grates	84.00	3 wrenches.....	4.50
7 long handle dippers..	11.65	50,000 brick.....	377.50
1 blacksmith hammer..	2.00	30,000 ft. sewer plank- ing	300.00
1 iron rake.....	.30	2 set catch basin stones	40.00
2 boilers.....	7.00	43 ft. 12 in. Portland pipe	9.65
12 chains.....	24.00	30 ft. 15 in. Portland pipe	9.90
3 chisels.....	.75	1 15 x 6 Y, Portland pipe	1.23
5 Coleman traps.....	25.00	1 18-in. Y, Portland pipe	3.08
2 Dutchmen	12.00	72 ft. 1½-in. steam drills	15.90
8 hand drills.....	2.00		
4 large frost wedges...	12.00		
2 pair hip rubber boots	6.00		
5 reducers.....	7.50		
6 wedges	3.00	Total	\$6,158.71

PAWTUCKET BOULEVARD.

FINANCES.

RECEIPTS :

Balance on hand January 1, 1892.....	\$	43.21
Appropriation.....		25,000.00
Receipts from various sources.....		55.00
		<hr/> \$25,098.21 <hr/>

EXPENDITURES :

Labor as per pay rolls.....	\$12,373.14
Teaming, material, etc.....	12,030.52
	<hr/> \$24,403.66 <hr/>
Balance on hand December 31, 1892.....	<hr/> \$694.55 <hr/>

PERSONAL PROPERTY.

The following is a schedule of personal property under my charge December 31, 1892, belonging to the appropriation for Pawtucket boulevard:

2 chain tongs.....	\$ 8.00	1 monkey wrench.....	.50
3 crow bars.....	3.00	5 lawn mowers.....	35.00
7 sickles.....	1.75	2 oil cans.....	1.00
4 dippers.....	.40	5 pails.....	2.50
60 ft. garden hose....	3.00	3 picks.....	1.80
70 ft. rope.....	1.25	1 plough.....	5.00
12 ft. $\frac{3}{4}$ -in. steel.....	3.60	1 pump.....	10.00
20 ft. 2-in. pipe.....	1.50	2 saws.....	1.50
1 grass shears.....	2.50	4 scythes.....	6.00
125 grass signs.....	28.75	34 shovels.....	14.10
1 grind stone.....	6.00	4 sod cutters.....	2.00
2 hammers.....	1.00	3 spades.....	1.50
22 hoes.....	5.50	1 spreader.....	1.25
20 iron rakes.....	6.00	5 sprinkling cans.....	5.00
2 lanterns.....	.70	1 tape measure, 50 ft..	1.00
3 spirit levels.....	4.50	1 tool box.....	5.00
8 mallets.....	3.20	1 tool shed.....	10.00
2 manure forks.....	1.50	4 wheelbarrows.....	4.00

PAWTUCKET BOULEVARD. — CONTINUED.

2 whiffletrees.....	1.50	1 2-in. valve.....	2.50
9 wooden rakes.....	2.25	1 4-in. water gate....	5.00
180 lbs. paint.....	18.00		
25 lbs. sheet lead.....	1.63	Total	\$221.43
5 oil cans.....	1.25		

STREET WATERING.

FINANCES.

RECEIPTS :

Loan.....	\$10,000.00
Transfer.....	5,000.00
Receipts from assessments.....	6,578.90
Receipts from labor, teaming, etc.....	1,682.76
	<u>\$23,261.66</u>

EXPENDITURES :

Labor, as per pay rolls.....	\$4,272.03
Stanton & Thurston, horses and carts.....	3,037.50
Studebaker Bros. Manufacturing Co., carts..	2,300.00
C. H. Hanson & Co., horses	1,650.00
Charles Clapp, horses	1,200.00
Repairing, shoeing, grain, etc	4,334.36
	<u>\$16,793.89</u>
Balance on hand December, 31, 1892.....	<u>\$6,467.77</u>

PERSONAL PROPERTY.

The following is a schedule of personal property under my charge December 31, 1892, belonging to the department of street watering:

$\frac{1}{2}$ barrel Stanley's prepared horse food....	\$ 4.00	24 horses.....	4,450.00
4 bottles Dr. Gray's lotion	2.00	2 hay forks.....	1.00
6 packages Dr. Daniel's colic cure.....	2.00	1 lantern.....	.35
9 packages Leslie's cough and fever drops.....	4.50	1 large 2-inch wrench..	2.00
1 ton hay.....	17.50	6 lazy straps.....	3.00
1 ton straw.....	20.00	26 leather horse collars	52.00
25 bunches broom stuff	1.50	11 mane brushes.....	5.50
4 bushels corn.....	2.50	1 manure fork.....	.50
10 bushels oats.....	4.60	1 rake.....	.25
150 pounds rock salt..	4.50	13 sets double harnesses.....	585.00
100 pounds shorts	1.00	14 blankets.....	31.50
1 cart jack.....	2.00	2 brooms.....	.50
12 curry combs, cards and brushes.....	7.20	1 hoe.....	.30
4 pails.....	2.00	12 wooden pails.....	3.00
25 halters	25.00	1 scraper.....	.50
		2 shovels.....	.50
		2 straw horse collars..	2.00

PERSONAL PROPERTY. — CONTINUED.

14 street blankets.....	31.50	1 4-quart measure....	.75
14 surcingles.....	4.48		
12 watering carts.....	2,670.00	Total.....	\$7,944.93

STREET CATCH BASINS BUILT DURING THE YEAR 1892.

STREETS.	LOCATION.
City Hall Avenue..	Centre, 45.5 ft. west of west line Palmer Street.
City Hall Avenue..	Centre, 86.5 ft. west of west line Palmer Street.
Chase	East side, 9 ft. north of north line Swift Street.
Chase	West side, 8.5 ft. north of north line Swift Street.
Cedar	West side, 120 ft. north of north line Keefe's Alley.
Cedar	East side, 160 ft. north of north line Keefe's Alley.
Cedar	West side, 8 ft. south of south line Keene Street.
Chelmsford	East side, 87 ft. south of south line Short Street
Chelmsford ,.....	South side, 17 ft. east of east line Grand Street.
East Merrimack...	North side, 4.5 ft. east of east line Stackpole Street
First	South side, 156 ft. east of east line Read Street.
Gates	East side, 19.5 ft. north of south line Martha Wilson lot.
Grand	East side, 16 ft. south of south line Chelmsford Street.
Hudson.....	North side, 6 ft. east of east line Richmond Avenue.

STREET CATCH BASINS BUILT. — CONTINUED.

STREETS.	LOCATION.
Lakeview Avenue..	West side, 12 ft. north of north line Campaw Street.
Lakeview Avenue..	West side, 5.5 ft. south of south line Beaver Street.
Middle.....	South side, 5.5 ft. west of west line Palmer Street.
Market.....	North side, 130 ft. west of west line Palmer Street.
Moody.....	South side, 4 ft. east of east line Tremont Street.
Moore	South side, 38 ft. west of west line Lawrence Street.
Moore	North side, 23 ft. west of west line Lawrence Street.
Moore	South side, 15.5 ft. east of east line Meadowcroft Street.
Moore	South side, 5 ft. east of east line Bleachery Street.
Moore	North side, 18 ft. east of east line Bleachery Street.
Marginal	North side, 7 ft. east of east line Stevens Street.
Nesmith	West side, 9.5 ft. south of south line Dr. Irish lot.
Oakland	West side, 9.5 ft. south of south line Pine Street.
Passageway, rear of Worthen Street..	South side, 1 ft. west of west line M. E. Church.

STREET CATCH BASINS BUILT. — CONTINUED.

STREETS.	LOCATION.
Passageway, rear of Worthen Street..	North side, 1.5 ft. east of west line Farrell & Conaton building.
Stevens (rebuilt) ..	East side, 3 ft. south of south line Marginal Street.
South Whipple	West side, 5.5 ft. north of north line Barrington Street.
Tremont.	East side, 6 ft. south of south line Moody Street.
Third Avenue.....	South side, 89.5 ft. west of west line Mt. Grove Street.
Thorndike (rebuilt)	East side, 17 ft. south of south line South Highland Street.
White	East side, 65 ft. south of south line Third Avenue.
White	North side, 15 ft. east of west line White Street.

TABLE SHOWING THE SEWERS BUILT DURING THE YEAR 1892. LENGTH, SIZE, MATERIAL, WHEN BEGUN AND FINISHED, AND COST.

STREETS.	SIZE AND LENGTH.				MATERIAL.	Cubic Yards Ledge.	Average Depth.	Man Holes.	BEGUN.	FINISHED.	COST.	Total Length.
	18 Inch	15 Inch	12 Inch	10 In.								
A gawam.....	211	.....	Portland Pipe.	165.7	7	1	June 27, 1892.	July 20, 1892.	\$1,024.14	211
Bridge and Sixth. (Relaid) 24 ft. Iron, 24 in.....	Iron Pipe.	.....	9.5	.....	July 22, " "	July 23, " "	183.30	24
Cumberland Road	245.8	.....	Portland Pipe.	37.2	9.4	2	May 26, " "	June 7, " "	490.53	245.8
Cumberland Road.....	191.6	.....	Portland Pipe.	70.6	10.4	2	June 8, " "	June 30, " "	753.11	191.6
Gates	570.7	.....	Portland Pipe.	290.2	8.5	4	April 19, " "	May 27, " "	2,068.61	570.7
Hutchinson.....	74	Portland Pipe.	59	6.8	1	May 5, " "	May 16, " "	280.46	74
High	488.4	.....	Portland Pipe.	.....	9.9	3	Oct. 13, " "	Nov. 1, " "	804.03	488.4
Harvard.....	1021.4	.....	Portland Pipe.	18.3	8.9	5	Aug. 24, " "	Oct. 8, " "	1,312.90	1,021.4
Lakeview Avenue.....	415	.....	Portland Pipe.	.....	10.7	1	Nov. 28, " "	Dec. 10, " "	444.43	415
Lincoln.....	467.4	.....	Portland Pipe.	.....	9.3	3	April 27, " "	May 4, " "	606.29	467.4
Lawrence. (finished), 424 ft. 22 x 33 in. Brick ...	77.5	319	.....	.....	Portland Pipe.	485.2	13.5	6	June 29, 1891.	Mar. 16, 1892.	12,082.95	829.5
Maple, 750 ft. 32 x 48 in. Brick.....	Brick.	.....	16.2	3	Sept. 8, 1892.	Unfinished....	12,023.95	750
Marginal and Foster, 1,443 ft. 36 in. Brick	Brick.	15	11.1	7	Sept. 6, " "	Dec. 29, " "	18,103.24	1,443
Middlesex, 241 ft. 36 in. Brick. 1,249 ft. 24 in. Brick	Brick.	.....	3.6	7	June 7, " "	Aug. 2, " "	5,765.28	1,490
Middlesex, 362 ft. 20 x 30 in. Brick.....	371	.....	.....	.....	Brick.	14	10.7	4	July 25, " "	Aug. 22, " "	2,265.26	733
Moore, 544.5 ft. 32 x 48 in. Brick.....	1066.5	.....	Portland Pipe.	38.8	10.4	8	May 5, " "	June 20, " "	5,774.58	1,611
Moore.....	786.5	.....	Portland Pipe.	214	8.9	6	April 5, " "	May 7, " "	2,365.47	786.5
Oakland	184.7	.....	Portland Pipe.	.....	9.7	1	May 27, " "	June 7, " "	324.19	184.7
Passage-way, rear Dutton.....	286	.....	Portland Pipe.	.....	9.8	3	April 18, " "	April 26, " "	532.94	286
Perry.....	579	.....	Portland Pipe.	.....	13	3	Dec. 6, " "	Dec. 29, " "	1,152.99	579
Rogers.....	780	.....	.....	Portland Pipe.	.....	12.7	3	Jan. 3, " "	Feb. 16, " "	2,546.29	780
Stevens.....	147.4	.....	Portland Pipe.	.....	10.2	1	May 25, " "	May 28, " "	237.20	147.4
South Whipple.....	389.5	.....	Portland Pipe.	53	9.6	2	June 14, " "	July 2, " "	789.29	389.5
Third Avenue, 36 ft. 8 in. Iron	Iron Pipe.	.....	5.5	1	Aug. 9, " "	Aug. 10, " "	50.62	36
Westford.....	270	.....	.....	Portland Pipe.	131	9	1	April 8, " "	April 23, " "	815.65	270

Lineal feet of Sewers laid in 1892...	13,985.9 or	2.64 miles.
Laid previously.....	58.80	"
Length of Sewers January 1, 1893.....	61.44	miles.

NOTE.—Of the above-named sewers which appear in the Superintendent's report for 1891, the length and cost therein specified, added to the length and cost of the same in 1892, will give the total length and cost, as given below:—

Lawrence Street.....	Total length, 1,833 feet.....	Total cost, \$20,657.32.
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* Built by Thomas Nesmith, at a cost of \$444.43

REMARKS.

In submitting my first report I beg leave to recommend some things that in my opinion would be very advantageous to the city's interests, fully realizing the superintendent's position, but whose experience in the matters should carry some weight with it.

PAVING AND MACADAMIZING.

I would recommend more granite block paving, and less macadamizing, on streets where heavy trucking or teaming is carried on. Macadam does not seem to stand the wear and tear, the best only lasting two or three years before needing repairs, and in the end is far more expensive, to say nothing of dust in dry weather and mud in wet weather; and our imperfect rules in allowing parties to dig and open up our streets, thereby leaving them in an uneven condition, which should not be allowed, unless a permit be granted by the superintendent of streets, who would use his judgment accordingly. I would recommend the appropriation of \$50,000.00 instead of \$25,000.00, as heretofore, and such streets as Chelmsford Street, which soil is of that nature, I would recommend it to be paved this coming season, and Thorndike Street from Appleton to Highland Street, the upper end of Gorham Street to Edson cemetery, also Appleton Street and others. Market Street and part of Middlesex Street should be repaved, and care should be taken as to the quality of paving, when contracts are made. Macadam should only be used on side streets, where teaming is very light. While the introduction of double tracks and electric cars in our city has necessi-

tated the overhauling of a large number of our macadamized streets, it has placed at our disposal an immense amount of material which has been disposed of to excellent advantage, in grading side streets in its immediate vicinity, which otherwise would have to have been teamed a long distance, which was a considerable saving in the cost of teaming, and it is almost needless to say that all of the streets are in better condition than before.

BRIDGES.

A new iron bridge has been built over River Meadow brook on Newhall Street, also Black Brook bridge has been widened and grade raised, and several other bridges have been replanked and are in good condition, with the exception of East Merrimack, Lawrence, and Cabot Street bridges, where new ones ought to be built in the near future.

SIDEWALKS.

A great many feet of edgestone have been laid in this season, the contract being awarded to Reed, Sweat & Fletcher, and furnished as a whole, fairly satisfactory.

There are a great many brick sidewalks to be relaid this coming season.

PRECAUTION AGAINST FIRE.

We have had put into the city stables, stand pipes and fire hose to be used at a moment's notice in case of fire and, also, electric incandescent lights in city and street watering stables.

PAWTUCKET BOULEVARD.

This beautiful driveway is fast coming to completion, a great deal has been done this year. Sidewalks from the entrance and along the river bank have been completed. Iron fences and granite bases have also been added and also a stone wall for a long distance has been added. The bank along the river has been removed, up as far as the Old Ferry road, and graded, ready for sodding this spring. Also the centre and right hand side lawns have been completed to upper end of boulevard.

There has been added a very large, useful and ornamental wind mill, 32,000 gallons capacity, together with about 4,500 feet of four-inch iron pipe; connected with the same are four stand pipes for sprinkling purposes, and also provisions being made for hose for sprinkling the lawns. The roads of the boulevard without water are very dusty, and water being greatly needed for the lawn to keep the grass from being burnt in the hot summer months. So without water, the boulevard would be a failure.

SEWERS AND DRAINS.

A great many sewers have been built and especially some very large ones, long petitioned for, in parts of the city which were sadly needed. Among these may be mentioned Maple Street, which will drain all the section beyond Railroad bridge, on Gorham Street, also Moore Street, thickly populated, these two are double brick, 32 x 48. Also the extension of the so-called marginal sewer, from the present terminus on Stevens, to a point opposite the new Pickering mill at Middlesex village.

In order to construct this sewer with the least cost and the best results, it was necessary to purchase lands and buildings, and open a new street to run parallel with Middlesex Street from Marginal Street, at junction of Stevens to the new power station, then at a right angle connecting with Middlesex Street, opposite Foster Street; also, it was necessary to raise the grade of Middlesex Street several feet at this point, in order to provide drainage at a proper grade for Middlesex village, Livingston Avenue, Foster, Harvard and other streets in this neighborhood, which it was impossible to drain heretofore.

In addition to the above, all sections of the city have been benefited by the building of pipe sewers to the number of twenty. I strongly advocate the building of the sewers larger than heretofore, and the cleaning out of them every year, as our experience of the present year proves that where they are neglected for a longer time, the best results do not follow. It has been clearly proven that the only practical way for the city to construct its sewers, is by day labor, instead of by contract. It has been demonstrated that sewers built by contract have been improperly back-filled—and a lack of man-holes for cleaning purposes, and chimneys for connections, while a few dollars may be saved at the time the contract is made. The city has to provide them within a short time, and they are always provided for when the work is done by the city directly.

STREET WATERING.

A new departure has been made by the city, that of watering the streets under municipal supervision, which

was found to be beneficial in more ways than one. At a less cost than heretofore, particularly those of macadamizing and gravel, as it is an absolute necessity to keep streets of that material wet during the dry season, to ensure them in keeping their proper shape. A temporary stable has been provided for twelve sprinkling carts and twenty-four horses, and in order to meet the increasing demand, more will have to be provided for the coming spring, as it meets the approval of a large majority of our citizens, who believe in an equal distribution of water, and assessments for doing the same.

IN CONCLUSION.

I wish to return my sincere thanks to His Honor the Mayor, and members of the City Council for their assistance and approval; especially to the city engineer and his assistants, and the committees on streets and sewers for their ready assistance and advice. The relations with the heads of the different departments have been most pleasant and agreeable. I also want to say a word of praise to my assistants, foremen, and other employes of the different departments for their co-operation for the city's best interests.

Most respectfully submitted,

ROBERT E. CROWLEY,

Superintendent of Streets.

ANNUAL REPORT
OF THE
CHIEF ENGINEER
OF THE
FIRE DEPARTMENT
OF THE
CITY OF LOWELL, MASS.
FOR THE YEAR 1892.



LOWELL, MASS.,
DAILY NEWS JOB PRINT, HILDRETH BUILDING.
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, Jan. 17, 1893.

Received and ordered on file, sent down for concurrence.

MICHAEL J. DOWD, City Clerk.

IN COMMON COUNCIL, Jan. 17, 1893.

Received and ordered on file in concurrence.

FRANK J. SIMONDS, Clerk.

REPORT.

CHIEF'S OFFICE, PALMER ST. ENGINE HOUSE, }
LOWELL, January 1st, 1893. }

To the City Council of the City of Lowell :

GENTLEMEN:—In accordance with the requirements governing the Fire Department, it becomes my duty, as Chief Engineer, to present to you the annual report of the Fire Department of the City of Lowell for the year ending December 31, 1892.

The report will be found to contain statements in detail, embracing the amount of expenditures, a register of the department, with age, residence and occupation of each member, a record of all fires and alarms which have occurred during the year and the cause thereof, with the names of the owners or occupants, the loss and insurance, as nearly as could be ascertained with the number and location of the fire alarm boxes; also an inventory of all property of the department, in charge

of the several companies, and such information as is thought proper for your consideration.

The following statement will show the receipts and expenditures:

RECEIPTS.

Balance undrawn, January 1, 1893.....	\$14,214 00	
Appropriation	80,000 00	
Loan	40,000 00	
Received from other sources.....	2,138 67	
	<hr/>	\$136,352 67

EXPENDITURES.

Pay Roll.....	\$81,103 95	
Water Works, for hydrants, etc.....	10,871 00	
New Wagon for Chief.....	190 00	
25 New Covers.....	231 25	
Smoke Protectors.....	94 00	
New First Size Engine.....	4,000 00	
New Syphon.....	175 00	
New Hose, Pipes and Repairs.....	1,737 92	
Electric Light Co, for Power.....	60 00	
Watering Streets, for Assessments.....	23 79	
Telephone Rental, etc.....	629 95	
Express	48 86	
New Horses, Exchange and Use of Horses	1,394 00	
Horse Shoeing.....	1,195 60	
Veterinary and Medicines.....	298 81	
Hay, Straw and Grain.....	6,039 12	
Harnesses, Whips, Blankets, etc.....	1,043 02	
Laundry	137 13	
Beds and Furniture.....	918 46	
<i>Amounts carried forward.....</i>	<hr/> \$110,191 86	<hr/> \$136,352 67

<i>Amounts brought forward</i>	\$110,191 86	\$136,352 67
Wood and Coal.....	2,304 88	
Repairs on Apparatus.....	4,504 96	
Repairs of Houses.....	667 71	
Oils, Sponges, Brooms, Soap, etc.....	1,613 72	
Gas	1,178 70	
Cloth, Buttons, Badges, etc.....	706 54	
Fire Alarm Expenses.....	1,639 13	
Chemicals.....	148 00	
Gongs and Indicators, New Houses..	760 00	
Beds and Furniture, " " ...	447 90	
2 New Bells, " " ...	601 80	
2 New Chucks, " " ...	180 00	
New Engine, second size, " " ...	3,300 00	
New Truck, " " ...	339 00	
2 New Wagons, " " ...	695 00	
Extinguishers, " " ...	184 00	
Horses, " " ...	788 00	
Ladders, " " ...	934 65	
Striker for Bell, " " ...	300 00	
Harnesses and Collars, " " ...	673 00	
Hose, Pipes, etc., " " ...	1,551 77	
Hose Washer, " " ...	55 00	
Incidentals.....	437 50	
	<hr/>	\$134,403 12
Balance undrawn, December 31, 1892,.....		<u>\$1,949 55</u>

SALARIES OF MEMBERS OF FIRE DEPARTMENT.

Chief Engineer	\$2,000 00 per annum.
First Assistant Engineer.....	500 00 " "
Other Assistant Engineers.....	400 00 " "
Secretary of the Board.....	25 00 " "
Foreman of Companies (call).....	225 00 " "
Call Men	200 00 " "
Permanent Men.....	2 75 per day.
Foreman of Companies (permanent)	3 00 " "

The Department is divided into two classes — Permanent and Call. The permanent force consists of

1 Chief Engineer,	24 Drivers.
1 Fire Alarm Operator,	13 Laddermen,
24 Hosemen,	6 Engineers of Steamers,
4 Patrolmen,	1 Driver for Chief.

A total of 74, of which 13 are Foremen and 11 Assistant Foremen, an increase of 16 permanent men during the year 1892.

The Call Force consists of

4 Assistant Engineers,	67 Hosemen,
27 Laddermen.	

A total of 98, of which 3 are Foremen and 5 Assistant Foremen.

This makes a total of 172, an increase of 36 during the year 1892, divided into companies as follows :

- 6 Steam Fire Engine Companies, with Hose Reels,
- 5 Horse Hose Companies,
- 4 Hook and Ladder Companies, with 2 Chemicals attached,
- 1 Patrol Company.

The changes in the force during the year have been as follows :

Deaths	1
Appointed on Call Force.....	43
Transferred from Call to Permanent.....	15
Discharged.....	7
Transferred	9

The permanent force is composed mostly of mechanics, and there has been an increase of 16 to the force during the past year, and as I said in my last report, the improved facilities for extinguishing fires necessitates the arrival of the men with the apparatus, I think it is for the interest of the city to make a small increase each year to the permanent force.

The apparatus is kept in the best possible condition, and consists at present of six Engines, four two-horse Reels, six one-horse and one two-horse Hose Wagons, one Babcock Aerial and three trucks of other patterns, two Chemical Engines, sixteen Fire Extinguishers, one Patrol Wagon and Sleigh fully equipped, six Hose Pungs on runners, Seven Fuel Wagons, three Wagons and one Sleigh for use on Fire Alarm, one Wagon and Sleigh for Chief's use. In reserve there are one two-horse and one one-horse Hose Reel; also there is one hand Hose Carriage stationed at the City Farm. The additions have been the purchase of two Engines, one "First" and one "Second" size, one two-horse and one one-horse Hose Wagon and one Truck. There has also been ordered one Hale Water Tower to be delivered next April.

Valuable acquisitions have been made to the department during the past year, by the purchase

of two Engines, two Hose Wagons and one Truck. The Committee also contracted for a Hale Water Tower to be delivered next April. The department is also strengthened by the addition of sixteen permanent and twenty call men.

In order to keep the numbers of the Engine Companies in rotation, what was known as Hose 5 was changed to Hose 10, and the new company in Pawtucketville was numbered Engine 5, and what was known as Hose 7 was changed to Engine 6, and Hose 6 was changed to Hose 7, and in order to have our largest Trucks and Ladders where they would be of the most benefit, Truck 1 was changed to the new house on Lawrence Street and the new Truck stationed at No. 1's old house and numbered 4.

FIRE-ALARM.

This branch of the service has been maintained in most excellent condition by the Operator, Mr. Geo. B. Whitney, and has given perfect alarms the past year.

There have been one hundred and fifty-eight alarms given from signal boxes; and No-School signal has been given twelve times the past year.

Seven new boxes have been placed in circuit the past year, numbered and located as follows:

- 132—Pumping Station.
- 152—Merrimaack Street, corner Spaulding.
- 165—Lakeview Avenue, corner of Fred Street.
- 171—Junction Middlesex and Pawtucket Streets.
- 215—Meadowcroft Street, near Bolt.
- 271—L. & S. R. R. Power Station.
- 283—Chelmsford Street, corner of Forest.

Box 6 has been removed to take the place of Box 3 which has been discontinued and Box 225 has been located to take the place of Box 6.

Connected with the circuit there is one ten-circuit non-interfering repeater, one ten-circuit cut out and testing switch board, eleven galvanometers, ten bell strikers, fifteen large gongs, for Engine Houses, thirteen small gongs, sixteen indicators, one line tester, sixteen electro-magnets and connections for opening stall doors, twenty electric light current protectors, eighty-nine public and three private signal boxes, ninety-one miles of wire, the whole supplied by a gravity battery of four hundred cups. There is also one large gong and indicator combined, in the Police Station and one large gong in the Pumping Station.

TELEPHONE. .

There are connected with this system seventeen stations, consisting of transmitter, telephone,

bell and battery; there are also eighteen extension bells for the sleeping rooms of the Engine Houses, and about thirty miles of wire owned by the city and under the care of the Fire Alarm Operator, except the transmitters and telephones, which are leased from the Telephone Company.

HORSES AND HARNESSES.

There are sixty horses in the service of the Department eleven of which belong to the Street Watering Department, and are used in bad weather by the Fire Department for their keeping. The horses now are in good condition, but the service required of them, by the enforced idleness that they are compelled to endure, and when called upon to respond to alarms, is calculated to soon break them down and render them unfit for use in this Department. There are twelve sets of double, ten sets of three horse-hitch, and four single swinging harnesses of the Berry patent.

HYDRANTS.

During the year thirty-nine new post hydrants have been added, making a total of nine hundred and one for which this Department is charged twelve dollars each, annually.

The hydrants added are located as follows: Middlesex Street six, Bowden, Carlisle, City Farm, Pawtucket and Tremont Streets and White Bro's Tannery two each, Cheever, Clark, Gates, Harvard, Humphrey, July, Royal, Maple, Midland, Oakland, Olive, Pleasant, Saunders, Shaffer, Ware and Hovey Streets, Fifth, Holyrood, Spring and Western Avenues and Broadway one each.

PROTECTIVE DEPARTMENT.

This department is maintained by the city and consists of five men. This company has again demonstrated its usefulness in saving property from damage at fires, and has been of great assistance in subduing small fires with its extinguishers during the past year. It has spread three hundred and seventy-three covers and has used one hundred and sixty-four extinguishers the past year.

Chemical Engine C, attached to Truck 2, used 31 tanks. Chemical Engine B, attached to 3, used 54 tanks.

HOUSES.

Two Engine Houses have been erected during the past year, one on Lawrence Street for a Hose Wagon and Truck, and one on Mammoth Road, Pawtucketville, for a Steamer and Combination

Hose Wagon. The houses of the department are in very good repair, and having been improved from year to year they are provided with every requisite for the comfort and convenience of the men and ample accommodation of horses and apparatus. The inside of the Palmer Street Engine House needs painting, as the walls were left unfinished until the building should settle.

FIRES AND LOSSES.

The whole number of fires that occurred during the year ending December 31, 1892, was two hundred and ninety-nine. One hundred and fifty-eight were given from signal boxes, fifty-three by telephone, eighty-two still alarms and six automatic, to every one of which some part of the department has responded.

There has been an increase of eighty-one alarms over last year. The whole amount of loss, as near as could be ascertained, was \$50,392.50; the amount of insurance was \$616,075.00; the amount of insurance paid was \$48,218.50 making the net amount of loss above insurance \$2,174.00. This is the largest number of alarms of any year that I have been connected with the department. There have been also a number of small fires extinguished by members of the Police Force and other citizens where the department was not called.

This city has been very fortunate during the past year, for while the number of alarms has been greater the losses have been much less than for several years. Yet we cannot expect this good fortune to always last, as the construction of many of the buildings which are being erected throughout the city is very poor, and it will be but a short time when their defects will be shown, and until wise building laws are enacted and strictly enforced, I can see no way to remedy this evil, as property owners from motives of false economy are loth to incur the expense necessary to remove many defects which are ultimately the cause of the destruction of their buildings.

In my last report I said somebody had a spite against the lumber yards, as no less than seven fires had been set in the different yards throughout the city. January 17th, an alarm was given from Box 4, one of the city lamp-lighters being near the box when the alarm was given, saw a man running in the direction from the box, and being suspicious he stopped him, detaining him until I arrived; receiving no satisfactory answers to my questions, I ordered his arrest for giving a false alarm. It proved to be a great catch, as before morning he confessed to setting five of the seven fires in the lumber yards, by means of lighted candles under piles of boards. He was

given a ten years' sentence. The miscreant was a young man, and his only excuse for setting the fires was, that he wanted to see the firemen come out and work at a fire. He would set the fire then go home and wait until the alarm sounded, and then get out before the firemen arrived, as the yards were close to where he lived. One other boy was caught and fined for giving a false alarm.

September 26th an alarm from Box 65, at 1.44 A. M., called the department to a lively blaze in a cottage house, with a variety store in the front room, kept by E. Laurenson. Excelsior saturated with kerosene being found on the kitchen floor aroused suspicion and his answers to questions being unsatisfactory he was arrested and tried before Judge Hadley, and was bound over to the Grand Jury which meets in February. Evidence showed that his children were left in the house of a neighbor, while he and his wife and the owners of the house went to ride, and they told different stories about their return, also that it had been set twice before that night but went out, and a man dressed like Laurenson was seen to jump out of a back window and run the first time it was set; the supposed cause was to get the insurance on his stock and furniture.

Two other fires were incendiary and an investigation called for, one of which is still open

and the other has not yet been started. Four others have been put under the head of incendiary but not enough evidence could be secured to call for an investigation, and it is useless to put the city to such an expense unless there is some good evidence.

The largest and only notable fire that occurred during the past year, was on July 4th, at 6.28 P. M. While a part of the department that responds to box 12, was at another fire, this box was rung in for a very lively blaze in the fourth story of the Brabrook building on Market Street, occupied by E. N. Wood & Co., hay and grain dealers and H. F. Ebert, harness maker. The place where the fire was located was packed full of hay, straw and grain, and it is supposed to have caught from a cannon cracker thrown through a broken window. The fire had gained considerable headway before it was discovered and it required a great deal of water to prevent its spreading. The loss was \$13,091.16, caused mostly by water.

Two alarms have been given for fires out of the city, one for a house on the road to Lawrence which was so far out that no part of the department was sent, the other was for two barns, four sheds, hen and ice houses in Dracut, belonging to D. E. Cameron, thirty-eight cows, three horses, five calves, and a lot of hens were lost.

Chemical B responded to the alarm and did great work by saving the house. The owner received \$4,450.00 insurance but claims his loss as much more.

The following will show the cause of the different alarms as near as could be ascertained:

Escaping steam.....	1	Brush	19
Cigar stubs.....	3	Supposed incendiary.....	4
Overheated boiler set roof.	2	Steam pipe.....	2
Naptha from gas jets.....	2	Back draught.....	3
Smoke from stove pipe.....	2	Explosion of stove polish..	1
Old rubbish.....	1	Cleaning bed with benzine..	1
Electric light wires....	9	Explosion of B. Sulphate..	2
Smoking in bed.....	1	Electric light wire crossed	
Defective chimney.....	18	with trolley.....	1
Children and matches.....	14	Curtain and candle.....	1
Exposure.....	1	Careless use of matches....	19
Rats and matches.....	9	Sparks set roof.....	17
Oil stoves exploded.....	3	Pipe in coat pocket.....	2
Drying plaster.....	1	False alarms.....	8
Chicken brooder.....	1	Chimneys.....	37
Lightning	4	Incendiary	3
Alarms for same fire.....	4	Unknown.....	11
Telephone wire crossed with		Clothes drying near stove..	2
trolley.....	1	Fire crackers	7
Curtain and match.....	1	Hot ashes.....	8
Curtain and gas jet.....	5	Torch exploded.....	1
Overheated stove set par-		Rekindled	6
tition.....	6	Thawing water pipe.....	3
Overheated thermostat....	6	Beds	4
No school ...	12	Load of hay.....	1
Kerosene oil explosion....	11	Defective oven	2
Stove pipe set floor.....	1	Drying waste on boiler	1
Grease on stove.....	1	Hot soldering pot	2
Combustion.....	6	Electric light wire and tree.	2
Locomotive sparks.....	11	Floor caught from forge ...	1
Caught in picker.....	1		

Alarms, from signal boxes	158
Still Alarms	82
Telephone Alarms	53
Automatic Alarms	6

Whole number of alarms to December 31, 1892..... 299

The following table shows the number of alarms of fire for each month:

Jan.. 25	March 16	May. 29	July. 27	Sept. 27	Nov.. 20
Feb.. 15	April. 37	June. 28	Aug.. 28	Oct.. 23	Dec... 24

During the year the department has been called upon to mourn the loss of two of its members.

April 21st, William Hale, a call member of Truck No. 1, was run over by the truck and killed. His remains were taken to Montreal for interment. He joined the Department in 1886, as member of Truck 2 Company.

October 11th, M. J. Burns, permanent driver on Engine 5, died. He joined the Department as call man of Engine 2, promoted to driver in 1883, transferred to Engine 5, July, 1892.

Delegations from the Department paid the last sad tribute of respect at their funerals.

Several casualties have occurred to the members of the Department during the past year, but

fortunately only one (William Hale) resulted fatally. P. Emerson, C. Riley, E. Crowley and J. Emerson of Hose 7, Capt. E. W. Bartlett and Ass't. J. H. Joyce of Engine 5, T. F. Welch and R. E. Burns of Engine 6, H. Coulam of Engine 3, Capt. J. L. Flagg, Ass't. W. H. Halstead and D. W. Russell of the Patrol, P. J. Clune of Hose 9, and Assistant Engineers G. F. Salmon and E. Meloy.

CONCLUSION.

In conclusion I desire to express my appreciation to my Assistant Engineers, Officers and Members of the several Companies for their fidelity and bravery, and for the prompt and efficient manner in which they have responded to all alarms; the support and good will manifested to me on all occasions, and their efforts to sustain the reputation of the Department. I desire also to return my sincere thanks to His Honor Mayor Fifield, the Board of Aldermen and Members of the Common Council for the interest manifested and the support given to the requirements of the Department during the year; to the Committee on Fire Department for their hearty co-operation in all matters tending to the improvement of the Department; to the Chief and other members of the Police Department for their assistance at fires and

on all other occasions; to the City Clerk, City Auditor, Superintendents of the different departments, and all others with whom I have had pleasant intercourse will please accept my sincere thanks.

Respectfully submitted,

EDWARD S. HOSMER,

Chief Fire Department.

Schedule of Fires which have occurred in the City of Lowell during the Year ending December 31, 1892.

Date 1892	Time.	Signal.	Location.	Wood, Brick or Stone.	Owned by	Occupied by	Occupied as	Loss.	Insurance	Insurance Paid.	Cause of Fire.	Remarks.
Jan. 1.	12.43 p. m.	7	Market Street	Wood.	Mrs. J. Hennessey.	Mrs. J. Hennessey.	Boarding House.	\$15.00	\$2,000	\$15.00	Defective Chimney.	
" 2.	4.59 p. m.	Still.	John Street Ave.	"	J. C. Abbott	"	Dwelling	20.00	5,200	20.00	Overheating Stove.	
" 3.	12.05 a. m.	23	Central Street	"	A. C. Wheelock	"	Dry Goods Store	21.00	5,000	21.00	Rats' nest in partition.	Hose 6 responded.
" 4.	5.48 p. m.	Still.	Front Street	"	J. McClusky.	Several Families	Dwelling	"	"	"	Chimney.	
" 11.	1.30 p. m.	Still.	Market Street	"	J. Connolly.	"	"	"	"	"	"	
" 11.	4.42 p. m.	Tel.	Bartlett Street	"	G. H. Stevens.	"	"	27.28	2,000	27.28	Wood box caught from stove	Hose 8 responded.
" 11.	7.30 p. m.	"	Warwick Street	"	C. A. Gilman.	J. Hicks	"	"	"	"	Kerosene oil lamp exploded.	
" 13.	3.41 a. m.	19	West Union Street	"	E. Sheehan.	Several Families	"	"	"	"	Shavings and wood in cellar.	
" 13.	7.45 a. m.	222	"	"	"	"	"	"	"	"	No school.	
" 14.	8.13 p. m.	25	Merrimack Street.	Wood.	Mrs. J. P. Jewett	E. Carrh.	Fancy Goods.	"	"	"	Pipe smoking.	
" 15.	12.45 p. m.	222	"	"	"	"	"	"	"	"	No school.	
" 16.	7.22 a. m.	51	Chapel Street.	Wood.	P. F. Brady	P. F. Brady	Dwelling	471.00	2,000	471.00	Hot stove set partition.	
" 16.	5.31 p. m.	7	Worthen Street.	"	P. Mehan.	Several Families	"	"	"	"	Chimney.	
" 17.	9.33 p. m.	4	"	"	"	"	"	"	"	"	False alarm.	
" 18.	2.14 p. m.	13	Paige Street.	Wood.	T. Nesmith	Mrs. McLeary	Dwelling	64.50	3,000	64.50	Unknown	Fred Currier caught. Sent 10 years
" 19.	8.35 a. m.	53	Green Street.	"	J. F. Noyes.	J. I. Brady	"	25.00	400	25.00	Incendiary	Incendiary.
" 22.	6.45 p. m.	Still.	Suffolk Street.	"	D. J. Murphy	Several Families	"	"	"	"	Defective chimney	Hose 8 responded.
" 24.	11.15 p. m.	Tel.	Adams Street	"	Ellen Burns' Heirs.	"	"	"	"	"	Chimney.	
" 25.	6.55 a. m.	"	Somerset Street.	"	Shanahan	Several Families	"	16.00	800	16.00	Defective chimney.	
" 26.	12.50 p. m.	Still.	Adams Street	"	"	"	"	"	"	"	Chimney.	
" 26.	3.05 p. m.	37	Chase Street.	"	Mrs. E. Scanlan	Mrs. E. Scanlan	"	75.00	1,000	75.00	Hot ashes on floor.	
" 26.	5.54 p. m.	61	Griffin Street.	"	J. Griffin	"	"	"	"	"	Chimney.	
" 26.	6.59 p. m.	71	Middlesex Street.	"	Judge Hadley	Judge Hadley	"	"	"	"	"	
" 27.	10.26 a. m.	Tel.	Grand Street	"	George Furber	George Furber	"	"	"	"	Defective chimney.	
" 27.	10.42 a. m.	185	Westford Street.	"	Mrs. E. Ryan	Mrs. E. Ryan	"	45.00	3,500	45.00	Thawing water pipe.	
" 31.	2.57 a. m.	7	Dutton Street.	"	P. Guckien	"	"	"	"	"	Waste paper and matches.	
" 31.	11.26 p. m.	132	"	"	"	"	"	"	"	"	False alarm.	
Feb. 1.	5.30 p. m.	Still.	Charles Street.	Wood.	J. Boyle	Several Families	Dwelling	"	"	"	Combustion of old rags.	Hose 6 responded.
" 6.	6.52 p. m.	52	Austin Street.	"	S. G. Mack.	"	"	112.45	1,500	112.45	Rats' nest in partition.	
" 10.	5.37 p. m.	9	Common Street.	"	J. Welch	"	"	"	"	"	Boy and matches set table cover.	
" 11.	12.45 p. m.	222	"	"	"	"	"	"	"	"	No school.	
" 11.	6.30 p. m.	222	"	"	"	"	"	"	"	"	"	
" 14.	6.38 p. m.	84	Marshall Street.	Wood.	J. Brown	C. Hyde	Dwelling	"	"	"	Matches in coat pocket.	
" 17.	2.05 p. m.	Still.	Middlesex Street.	"	T. H. Elliott	Several Families	"	10.00	"	10.00	Sparks set roof.	Engine and Truck 2 responded.
" 18.	6.28 p. m.	28	Tucker Street.	"	Felix Albert	"	"	"	"	"	Thawing water pipe.	
" 19.	5.32 p. m.	28	Aiken Street.	"	A. Landry	M. Goldman	Shoe Store	1,625.00	2,000	1,625.00	Girl and matches.	
" 19.	6.22 p. m.	16	Lawrence Street.	"	W. T. Benson	W. T. Benson	Dwelling	"	"	"	Chimney.	
" 20.	11.30 a. m.	Still.	High Street	"	"	"	"	"	"	"	Clothes caught from stove	Engine 4 responded.
" 22.	11.40 a. m.	"	South Street.	"	T. McOwen	Several Families	"	15.00	"	"	Kerosene oil stove set floor.	
" 22.	10.40 p. m.	7	Market Street	Brick.	T. Gates & Sons	Wm. Cleworth & Sons	Reed Manufactory.	40.00	2,000	40.00	Combustion in barrel.	
" 25.	7.50 a. m.	24	Middlesex Street.	"	Howe Bros	A. J. Webb	Dwelling	149.68	10,200	149.68	Combustion of old rags.	
" 26.	6.17 p. m.	28	Cheever Street	Wood.	E. B. Perley	"	Barber Shop	15.00	6,000	15.00	Defective chimney.	
" 28.	10.15 a. m.	Still.	Lakeview Avenue.	"	J. M. G. Parker Heirs.	Several Families	Dwelling	"	"	"	Chimney	Hose 5 responded.
" 29.	10.05 a. m.	"	Castles Square	"	S. Castles Heirs.	"	"	"	"	"	Hose 8 responded.	
Mar. 1.	9.15 a. m.	Tel.	Stevens Street.	"	E. S. Foss	E. S. Foss	"	"	"	"	"	
" 2.	5.55 p. m.	"	Central Street.	"	F. Ayer	H. Hartford	Stores and Offices	29.16	13,000	29.16	Steam pipes set floor.	
" 2.	6.15 p. m.	Still.	Middlesex Street.	"	J. F. O'Donnell	"	Dwelling	"	"	"	Bed	Engine 2 responded.
" 3.	8.10 p. m.	25	Merrimack Street.	"	W. Bascom	J. K. Bourk	Clothing Store	3,586.00	11,000	3,586.00	Supposed incendiary.	
" 3.	7.45 a. m.	222	"	"	"	"	"	"	"	"	No school.	
" 3.	1.15 p. m.	222	"	"	"	"	"	"	"	"	"	
" 5.	12.50 a. m.	Tel.	Western Avenue	"	B. & M. Railroad	"	Potato Car	"	"	"	Overheated stove.	
" 6.	10.38 a. m.	24	Middlesex Street.	Brick.	T. H. Elliott	Unoccupied	"	"	"	"	Drying plaster.	
" 7.	7.00 a. m.	Tel.	"	"	"	"	"	"	"	"	False alarm.	
" 10.	8.45 p. m.	Still.	Merrimack Street.	Brick.	Railroad Bank	A. N. Hannon	Picture Frame Mfg.	2,344.00	23,000	2,344.00	Unknown.	
" 11.	8.35 p. m.	"	Market Street	Wood.	A. McCarty	A. McCarty	Dwelling	"	"	"	Defective chimney	Hose 8 responded.
" 12.	11.21 p. m.	13	Paige Street.	"	T. Nesmith	"	"	10.00	"	"	Hot stove set bed.	
" 13.	1.30 p. m.	Still.	Market Street	"	D. J. Murphy	Several Families	"	"	"	"	Defective chimney	Hose 8 responded.
" 14.	1.30 p. m.	Tel.	Lincoln Street.	"	Old Colony Railroad.	Wood Shed	"	"	"	"	Sparks set roof.	
" 17.	8.30 a. m.	Still.	Bridge Street.	"	T. M. Hill	A. H. Cluer	Harness Shop	"	"	"	Chimney	Engine 3 and Hose 5 responded.
" 21.	7.14 a. m.	72	Middlesex Street.	"	A. C. Wheelock	Several Families	Dwelling	45.00	1,800	20.00	Children and matches set bed.	
" 27.	8.42 p. m.	29	"	"	"	"	"	"	"	"	False alarm.	
Apr. 3.	11.55 p. m.	52	Moody Street	Wood.	M. Murray	Unoccupied	"	90.00	2,500	90.00	Rats and matches.	
" 3.	10.35 a. m.	24	Middlesex Street.	"	Mrs. Racicot	Several Families	Dwelling	"	"	"	Pipe in pocket.	
" 3.	5.24 p. m.	Tel.	Riverside Street.	"	Locks and Canals	"	"	"	"	"	Brush.	
" 4.	6.06 a. m.	42	Middlesex Street.	Brick.	Davis & Sargent	Davis & Sargent	Boiler Room	"	"	"	Back-draught set shavings.	
" 4.	6.55 p. m.	Still.	Hurd Street.	"	W. P. Manning	"	Dwelling	"	"	"	Curtain and gas jet.	
" 4.	6.57 p. m.	53	"	"	"	"	"	10.00	"	"	"	
" 6.	3.14 p. m.	Tel.	Marshall Road.	"	Mrs. S. S. Spaulding	"	"	"	"	"	Brush set by boys.	
" 7.	8.36 a. m.	72	Middlesex Street.	Wood.	A. C. Wheelock	Several Families	Dwelling	"	"	"	Sparks set roof.	
" 7.	5.52 p. m.	Tel.	Belmont Avenue.	"	T. Nesmith	"	"	"	"	"	Brush.	
" 8.	9.09 a. m.	132	Hampshire Street.	"	H. Carleton	"	Load of Hay	15.00	"	"	Set by two boys.	
" 8.	4.07 p. m.	Tel.	Hawthorn Street.	"	Parker & Young	"	"	"	"	"	Brush set by boys.	
" 8.	10.46 p. m.	32	Dracut	"	"	"	"	"	"	"	Out of city. Incendiary.	
" 10.	12.10 p. m.	36	Stevens Street.	Wood.	M. G. Leonard	M. G. Leonard	Dwelling	970.00	1,500	970.00	Chicken brooder and K. oil lamp.	
" 11.	6.50 p. m.	Tel.	Stackpole Street.	"	Locks & Canals	"	"	"	"	"	Brush set by boys.	
" 11.	4.01 p. m.	"	Middlesex Street.	Wood.	A. L. Russell	George Foster	Hay Shed.	205.00	425	205.00	Unknown.	
" 15.	10.50 a. m.	24	Spring Street.	"	P. H. Corey	"	Mattress and Straw	"	"	"	Set by boys.	
" 15.	7.43 p. m.	53	William Street.	Wood.	R. G. Bartlett	Several Families	Dwelling	15.00	800	15.00	Defective chimney.	
" 16.	2.08 p. m.	4	Dutton Street.	"	Wamesit Steam Mills.	Wamesit Steam Mills.	Boiler Room	40.00	300	40.00	Roof caught from boiler.	
" 16.	2.40 p. m.	Still.	Fletcher Street	"	City	"	Stone Crusher	"	"	"	Sparks set roof.	
" 16.	3.42 p. m.	125	Market Street	"	Mrs. E. Conway Est.	A. Paret	Dwelling	91.00	1,200	95.00	Defective chimney.	
" 16.	8.38 p. m.	125	Suffolk Court.	"	Mrs. A. M. Hight	Several Families	Wood Sheds	100.00	"	"	Supposed set by boys.	
" 17.	3.30 a. m.	Tel.	Cabot Street.	"	J. Goodell	Shoe Maker	"	63.00	3,000	63.00	Kerosene oil lamp exploded.	
" 17.	10.00 a. m.	Still.	Willie Street	"	T. F. Fay	Several Families	Dwelling	"	"	"	Chimney.	
" 17.	2.52 p. m.	134	Middlesex Road.	"	Wm. Manning	"	"	"	"	"	Brush set by boys.	
" 17.	3.30 p. m.	85	Westford Street.	"	Mrs. S. Tyler	"	"	"	"	"	"	
" 17.	5.32 p. m.	Still.	Andover Street	Wood.	H. Gotham Heirs.	J. H. Boardman	Dwelling	10.00	"	"	Defective chimney	Engine 4 responded.
" 18.	11.10 p. m.	Tel.	First Street	"	Locks & Canals	"	Dump	"	"	"	Hot ashes.	
" 18.	2.00 p. m.	Still.	Nesmith Street.	"	Dr. G. Kimball.	"	"	"	"	"	Brush set by boys.	
" 21.	12.58 p. m.	24	Summer Street Ct.	Wood.	W. H. Bent	Several Families	Dwelling	"	"	"	Chimney.	
" 21.	1.57 p. m.	136	Parker Street	"	Coburn Bros	"	"	"	"	"	Brush set by boys.	
" 21.	2.10 p. m.	134	Main Street	"	Connors Bros.	"	"	"	"	"	"	
" 24.	2.10 p. m.	136	Parker Street	"	DeEvelys & Walsh.	"	"	"	"	"	Caught from first fire.	Wm. Hale killed responding to the alarm.
" 24.	8.30 p. m.	Still.	Cross Street	Wood.	C. Shannahan	C. Shannahan	Dwelling	"	"	"	Chimney.	
" 25.	11.24 p. m.	46	Second Street	"	Mrs. H. Abels	S. Abels	"	2,403.00	4,500	2,203.00	Unknown. Supposed rats' nest.	
" 25.	10.29 a. m.	27	Varnum Avenue	"	Lowell Hospital.	"	"	"	"	"	Brush.	
" 27.	1.45 p. m.	27	Riverside Street.	"	Mrs. Bodwell.	"	"	"	"	"	"	
" 30.	6.08 p. m.	131	Wall Street.	Wood.	A. LeBlanc	Several Families	Dwelling	"	"	"	Chimney.	
May 1.	8.59 p. m.	27	Dracut	"	D. E. Cameron	"	2 Stables, 4 Sheds	"	"	(4,450.00)	Unknown.	Out of city, 38 cows, 3 horses and 5 calves burned.
" 2.	10.07 a. m.	24	South Street.	Brick.	H. B. Shattuck.	Several Families	Dwelling	20.00	"	"	Clothes and matches.	
" 3.	11.10 a. m.	Tel.	First Street	"	Locks and Canals	"	Dump	"	"	"	Hot ashes.	
" 3.	11.11 p. m.	121	Dutton Street.	"	Boott Corp.	"	Car of Cotton	259.00	"	259.00	Sparks from locomotive.	
" 3.	8.15 a. m.	Still.	First Street	"	Locks & Canals	"	Dump	"	"	"	Hot ashes.	
" 3.	4.53 p. m.	7	Market Street	Brick.	P. Dempsey.	A. Clinton	Tea Store	125.00	2,000	125.00	Kerosene oil lamp exploded.	Engine 3 responded.
" 3.	9.30 p. m.	Still.	"	"	"	"	"	"	"	"	Rekindled.	Hose 6 responded.
" 6.	10.15 p. m.	"	Chapel Street	Wood.	A. C. Wheelock	Several Families	Dwelling	5.00	"	"	Defective chimney	Engine 4 responded.
" 6.	9.15 a. m.	"	High Street	"	A. G. Thompson	"	"	"	"	"	Hot ashes and rubbish	Truck 2 and Chemical C responded.
" 6.	10.30 a. m.	"	Lane Street	"	E. Dearborn	"	"	"	"	"	Matches in pocket.	
" 7.	7.10 a. m.	Tel.	Market Street	"	W. P. Foye	Miss S. H. Cahill	Millinery Store.	218.20	2,000	218.20	Gas jet and curtain.	
" 7.	2.58 p. m.	71	Middlesex Street.	"	J. M. G. Parker Heirs.	"	"	"	"	"	Brush.	
" 8.	1.49 p. m.	73	Mammoth Road.	"	Dr. S. L. Ward	"	"	"	"	"	Brush set by boys.	
" 10.	4.23 p. m.	73	Old Meadow Road	"	"	"	"	"	"	"	"	
" 11.	5.55 p. m.	Still.	Merrimack Street.	Brick.	Mechanics Sav. Bank.	J. V. Keyes	Dry Goods Store	"	"	"	Defective electric light switch.	Engine 3 responded.
" 11.	8.00 a. m.	"	E. Merrimack St.	Wood.	J. Fuller	E. Clark	Stable	"	"	"	Unknown. Sawdust in barrel.	Truck 3 responded.
" 14.	5.38 p. m.	46	Reed's Court.	"	T. Carolin	Several Families	Dwelling	"	"	"	Chimney.	
" 15.	9.00 a. m.	Still.	Jewett Street.	"	O. A. Simpson	"	"	"	"	"	Defective chimney	Truck 1 responded.
" 16.	1.20 p. m.	Tel.	Merrimack Street	Brick.	P. Webster	Mrs. A. Blanchard	"	159.20	5,500	159.20	"	
" 16.	3.30 p. m.	Still.	Bridge Street	Wood.	City	"	Bridge	"	"	"	Cigar stub.	Engine 3 responded.
" 16.	4.30 p. m.	Tel.	First Street	"	Locks & Canals	J. Dugdale	Dump	"	"	"	Hot ashes.	
" 18.	6.54 p. m.	3	Willie Street	Stone.	J. Dugdale	"	Worsted Mill.	"	"	"	Steam pipe set roof.	
" 19.	8.45 p. m.	Tel.	Off School Street.	Wood.	Doherty Bros.	Doherty Bros.	Foundry	"	"	"	Flasks caught fire.	
" 19.	11.41 a. m.	"	Gorham Street	"	Tremont & Suffolk.	"	Car of Cotton	700.00	"	700.00	Sparks from	

Schedule of Fires which have occurred in the City of Lowell during the Year ending December 31, 1892.

Date 1892	Time.	Signal.	Location.	Wood, Brick or Stone.	Owned by	Occupied by	Occupied as	Loss.	Insurance	Insurance Paid.	Cause of Fire.	Remarks.
July 2	2:16 p. m.	131	Wall Street	Wood.	J. U. Gage	Unoccupied.	Dwelling	25.00			Fire crackers set roof.	
" 3	2:50 p. m.	42	Howard Street	Brick.	W. H. I. Hayes	Several Families	"				Pipe set bed.	
" 3	9:01 p. m.	72	Middlesex Street	Brick.	C. A. Stott	Stores and Offices	"				Smoke from chimney.	
" 4	5:26 a. m.	131	E. Merrimack St.	Wood.	J. Fuller	Several Families	Dwelling	20.00			Fire crackers set clothes.	
" 4	12:02 p. m.	Tel.	John Street	Brick.	Sheppard, Fuller, & Co.	J. H. Storey	Dry Goods Store	201.28	\$10,500	\$201.28	Fire crackers set awning.	
" 4	12:50 p. m.	19	Gorham Street	Wood.	E. Sheehan	Several Families	Dwelling	12.00	3,000	12.00	Rats' nest in partition.	
" 4	6:14 p. m.	9	Decatur Avenue	"	E. J. Barrett	"	"				Fire crackers set roof.	
" 4	6:28 p. m.	12	Market Street	Brick.	J. A. Brabrook, Heirs.	Woods & Co. et als.	"	13,091.16	13,500	13,091.16	"	
" 4	6:31 p. m.	56	"	"	"	"	"				"	
" 5	5:15 a. m.	Still.	"	"	"	"	"				"	
" 5	1:30 p. m.	35	Lawrence Street	Wood.	B. Watson, Heirs.	H. Coburn	Dwelling				Same fire.	Engine and Truck 3 and Patrol res'd.
" 6	6:20 a. m.	Still.	Market Street	Brick.	Brabrook Heirs.	"	"				Sparks set roof.	
" 6	9:24 a. m.	4	Putnam Place	Wood.	J. C. Bachelier	Several Families	Dwelling				Rekindled.	Engine 3 responded.
" 6	10:23 a. m.	5	Wamesit Court	"	R. G. Bartlett	"	"	10.00			Smoking in water closet.	
" 7	2:33 p. m.	18	Short Street	"	Mrs. M. C. Hildreth	L. S. Smith	"	35.00			Sparks set roof.	
" 8	6:57 a. m.	125	Little Street	"	J. Dyer	Mrs. Flood	"				Children and matches.	
" 12	6:47 a. m.	5	Fletcher Street	Brick.	A. L. Brooks & Co.	A. L. Brooks & Co.	Dry House	90.00	4,500	90.00	Cleaning bed with benzine.	
" 13	1:18 p. m.	5	"	"	"	"	"	24.00	4,500	24.00	Overheated chimney set woodwork.	
" 14	9:58 a. m.	46	Lakeview Avenue	Wood.	J. M. G. Parker, Heirs	Several Families	Dwelling	10.00			Candle set curtain.	
" 18	9:34 p. m.	83	Powell Street	"	C. H. Kimball	Mrs. Abbott	"	40.00	500	40.00	Pipe or matches set bed.	
" 18	10:18 p. m.	39	Adams Street	"	C. Shanahan	D. O'Connell	Druggist				Kind and kerosene oil lamp.	
" 19	12:20 a. m.	Still.	Middlesex Street	"	W. P. Foye, Agent	"	Blacksmith Shop				Caught from forge floor.	
" 23	2:43 p. m.	43	Walnut Street	"	Geo. Custy	Geo. Custy	Dwelling				Chimney.	
" 28	1:19 p. m.	37	Whipple Street	"	J. J. Gray	J. J. Gray	Wood Shed	1.00			Sparks set roof.	
" 30	3:48 p. m.	47	Stackpole Street	"	Locks & Canals	"	Rubbish.				Set by boys.	
" 31	5:42 p. m.	5	Cushing Street	Wood.	H. F. Howe	Several Families	Dwelling	5.00			Kerosene oil stove exploded.	
Aug. 2	7:09 a. m.	53	Jackson Street	Brick.	Hamilton Corporation	Hamilton Corporation	"	3,509.00	50,000	35.00	Combustion of rubbish.	
" 2	12:55 p. m.	Still.	Salem Street	Wood.	S. Castles Heirs	Several Families	Dwelling				Chimney	Engine 6 responded.
" 3	9:20 a. m.	Aut.	Hall Street	Brick.	G. W. Harris	J. M. Stover	Shoe Manufactory				Steam escaping set Thermostat.	
" 4	8:11 p. m.	65	Ludlam Street	Wood.	N. Desmaris	J. Desmaris	(Dwelling)	127.50	2,000	127.50	Kerosene oil lamp exploded.	
" 4	8:11 p. m.	65	"	"	"	"	"	725.00	800	725.00	"	
" 5	11:53 p. m.	34	Off Tanner Street	"	D. McNabb	"	Machine Shop	300.00			Incendiary	Investigated.
" 6	6:30 p. m.	Still.	Congress Street	"	C. Runels	C. Runels	Stone Shed				Sparks set roof	Engine 1 responded.
" 6	4:30 p. m.	42	Livingston Street	Wood.	Bleachery Co.	"	Dump				Children and matches.	
" 8	7:44 p. m.	42	Perley's Court	Wood.	A. Wright	Several Families	Dwelling	10.00	2,000	10.00	Kerosene oil lamp exploded.	
" 9	5:50 p. m.	Tel.	Gorham Street	"	H. Riley	Several Families	Car of Hay	109.00		100.00	Sparks from locomotive.	
" 9	8:54 p. m.	51	Crosby Street	Wood.	J. Bassett	"	Dwelling	8.00			Curtains and Gas jet.	
" 9	9:08 p. m.	37	Whipple Street	"	City	"	Carpet Shop				Curtain and Matches.	
" 10	3:50 p. m.	Still.	Pawtucket Bridge	"	B. & M. R. R.	"	Bridge	358.00		358.00	Cigar stub.	Engine 5 responded.
" 11	9:04 p. m.	15	R. R. Bridge	"	"	"	"				Struck by Lightning.	
" 11	9:09 p. m.	38	"	"	"	"	"				Same Fire.	
" 11	9:19 p. m.	Still.	Palmer Street	"	A. G. Pollard & Co.	"	Awning	5.00			Defective Electric Light.	
" 11	9:25 p. m.	215	R. R. Bridge	"	B. & M. R. R.	"	Bridge				Rung for the same fire.	
" 11	11:40 p. m.	Tel.	"	"	"	"	"				Rekindled.	
" 19	10:03 p. m.	37	Crosby Street	Wood.	Mrs. Cummings	Jane Kelly	Dwelling	15.00			Kerosene oil lamp exploded.	
" 22	10:57 a. m.	Tel.	Gorham Street	"	Warburton Bros.	Warburton Bros.	"				Sparks from locomotive set roof.	
" 23	11:48 a. m.	24	Middlesex Street	Brick.	H. B. Shattuck	L. G. Moss	Bakery				Overalls and Matches.	
" 25	11:25 p. m.	Still.	Palmer Street	"	A. G. Pollard & Co.	A. G. Pollard & Co.	Awning	15.00			Defective electric wire.	
" 26	10:09 a. m.	35	Lawrence Street	"	"	"	"				Electric light wire and tree.	
" 26	1:21 a. m.	72	Middlesex Street	Brick	"	R. F. Britton	Bar Room				Electric light wire crossed with trolley.	
" 26	3:32 p. m.	Aut.	Shattuck Street	Wood.	Card Clothing Co.	Several Families	Dwelling				False. Somebody fooling with Ther.	
" 26	8:16 p. m.	28	Hall Street	"	G. W. Harris	"	"				Chimney.	
" 27	10:34 a. m.	Aut.	Shattuck Street	"	Card Clothing Co.	"	"				False alarm.	
" 29	4:15 p. m.	Tel.	Gorham Street	"	"	Car of Hay	"	100.00		100.00	Sparks from locomotive.	
" 29	4:21 p. m.	16	"	"	"	"	"				False. Boy 12 yrs. old M. Hedderman	
" 30	7:15 p. m.	Still.	Palmer Street	"	A. G. Pollard & Co.	A. G. Pollard & Co.	Awning	10.00			Defective electric wire.	Injured.
Sept. 1	3:26 p. m.	5	Suffolk Street	Wood.	S. P. Pike	S. P. Pike	Stable	930.00	1,300	430.00	Supposed incendiary.	Two horses burnt.
" 1	3:26 p. m.	5	"	"	T. I. McDuffee	Several Families	Dwelling	100.00	600	100.00	Caught from the other fire.	
" 1	11:08 a. m.	Still.	City Hall Avenue	Brick.	C. Hovey, Heirs.	"	"	15.00	2,500	15.00	Rats and matches.	Engine, Truck and Chemical 3 res'd.
" 2	10:30 p. m.	41	Salem Street	Wood.	J. P. Quinn	"	"				Chimney	Hose 8 responded.
" 6	5:30 p. m.	121	Western Avenue	"	W. Farrington	W. Farrington	Boiler Room	50.00			Telephone crossed trolley, burnt tele.	
" 7	11:15 a. m.	53	Central Street	Brick.	J. G. Sherburn	J. G. Sherburn	Printing Office				Jack draft set shavings and roof.	
" 8	8:09 p. m.	23	Lakeview Avenue	Wood.	C. Callahan	Several Families	Dwelling				Waste basket and paper.	
" 9	5:05 p. m.	Still.	Jackson Street	Brick.	Appleton Corporation	Appleton Corporation	Picker	629.39		629.39	Boy and matches.	
" 9	5:20 p. m.	9	Fletcher Street	Wood.	City	"	Stone Crusher				Caught in dust box.	
" 10	2:01 p. m.	222	Adams Street	"	Thomas Fay	Several Families	Dwelling				Sparks set roof.	Engine 6 responded.
" 11	1:15 p. m.	65	"	"	"	"	"				Excelsior and matches in cellar.	
" 14	6:55 a. m.	42	Lakeview Avenue	Wood.	J. Small	Several Families	Dwelling	25.00			No school.	
" 15	5:04 p. m.	Still.	Central Street	"	A. Putnam	"	Awning				Boys and matches set closet fire.	
" 15	9:24 p. m.	42	Arch Street	Wood.	J. W. Bennett	J. W. Bennett	Stable	322.00	1,800	322.00	Match	Protective responded.
" 16	9:52 a. m.	Still.	Kirk Street	Brick.	Mrs. Wright	"	Dwelling				Hot soldering pot.	
" 16	5:53 p. m.	Tel.	"	"	"	"	"				Defective funnel.	Engine 3 responded.
" 18	8:30 p. m.	Still.	Adams Street	Wood.	Thomas Fay	Several Families	Dwelling				Electric wire and tree.	
" 19	10:00 a. m.	Tel.	Jackson Street	"	M. Aldrich	Unoccupied	"				Kerosene oil lamp exploded.	Engine 6 responded.
" 20	12:23 p. m.	12	Central Street	Brick.	Wright & Gerrish	J. J. Cluin	Jewelry Store				Explosion of bi-sulphate.	
" 21	3:05 p. m.	14	Andover Street	Wood.	C. H. Hill	E. Sanborn	Carriage Blacksmith	10.00	1,000	10.00	Naptha and match.	
" 26	1:44 a. m.	65	Lakeview Avenue	"	A. Robert	E. Laurensen	Dwelling	2,200	Not settled.		Sparks set roof.	
" 26	1:44 a. m.	65	"	"	"	"	"	700			Incendiary. E. L. arrested.	
" 26	10:05 a. m.	Tel.	Jackson Street	"	M. Aldrich	"	"				Explosion of bi-sulphate.	
" 26	11:56 a. m.	7	Dutton Street	Brick.	H. Emery, Heirs.	Several Occupants	Stores and Hotel				Chimney.	
" 26	11:10 a. m.	Tel.	Thorndike Street	Wood.	Locks & Canals	"	Bridge				Cigar stub.	
" 28	6:43 a. m.	53	Jackson Street	Brick.	Hamilton Corporation	Hamilton Corporation	Storehouse	700.00	50,000	700.00	Parlor match on track set waste.	
" 29	9:04 a. m.	64	Durant Street	Wood.	C. Callahan	"	Dwelling	15.00			Gas jet and curtain.	
" 29	2:28 p. m.	6	Willie Street	Stone.	J. Dugdale	"	Boiler Room	365.00	12,000	365.00	Back-draught set shavings.	
" 29	5:50 p. m.	Tel.	Gorham Street	Wood.	J. Marrin	"	Hay Car	100.00			Sparks from locomotive.	
Oct. 1	11:48 a. m.	30	Thorndike Street	"	Andrews & Wheeler	Andrews & Wheeler	Stone Shed				Set by boys.	
" 1	7:24 p. m.	35	Noble's Court	"	G. Noble	Several Families	Dwelling	7.40	2,000		Matches and clothes.	
" 3	3:00 p. m.	35	Lawrence Street	"	A. V. Partridge	Mrs. Murray	Boarding House	57.50	4,000	57.50	Incendiary. Investigated.	
" 4	1:50 a. m.	Still.	Chestnut Street	"	Burnap & Nute	Several Families	Dwelling				Rats and matches.	Engine 4 responded.
" 4	1:55 a. m.	Tel.	"	"	"	"	"				"	
" 4	2:00 a. m.	49	"	"	"	"	"	1,650.00	4,000	1,650.00	"	
" 4	1:58 p. m.	Still.	High Street	"	A. G. Thompson	"	"				Barrel of excelsior.	Engine 4 responded.
" 4	1:59 p. m.	Tel.	Gorham Street	"	A. B. McGrillis	"	Car of Hay	60.00		60.00	Spark from locomotive.	
" 5	5:23 p. m.	Tel.	Pine Street	"	J. Madison	"	Dwelling				Chimney.	
" 7	7:01 p. m.	39	Noble's Court	"	G. Noble	Several Families	"	10.00			Bed. Unknown.	
" 10	12:01 a. m.	24	Elliott Street	Brick.	Hamilton Corporation	M. Coffey	Boarding House				Kerosene oil lamp exploded.	
" 12	5:45 p. m.	52	Western Avenue	Wood.	T. H. Elliott	B. M. Blake	Hay Shed				Overheated Stove.	
" 12	10:59 a. m.	53	Gorham Street	"	P. Scollan	Several Families	Dwelling	43.00	5,000	43.00	Clothes in closet. Unknown	
" 12	12:59 p. m.	19	"	"	"	"	"				Rekindled.	
" 12	7:20 p. m.	Still.	Lawrence Street	"	J. Sullivan	"	"				Chimney	Hose 7 responded.
" 12	1:45 p. m.	51	Thorndike Street	"	B. & M. R. R.	"	"				Sparks from locomotive set platform.	Engineer Burton responded.
" 14	6:20 p. m.	51	Cedar Street	"	J. McDermott	B. & M. R. R.	Freight House				Sparks set roof.	
" 23	9:15 p. m.	Tel.	Indian Orchard	"	Locks & Canals	"	Dwelling	15.00	1,800	15.00	Brush	
" 24	5:30 p. m.	132	Hampshire Street	Wood.	C. H. Richardson	"	Dwelling	14.14	1,200	9.14	Defective chimney.	
" 25	2:16 a. m.	34	Merrimack Street	Brick.	Railroad Bank	A. N. Harmon	Picture Framing	3,526.76	23,200	3,526.76	Unknown	
" 25	4:50 p. m.	34	Tanner Street	Wood.	E. B. Pierce	E. S. Foss & Co.	Stone House	11.00	500	11.00	"	
" 27	4:05 p. m.	Aut.	Shattuck Street	"	Card Clothing Co.	"	"				Overheating Thermostat.	
" 31	7:06 p. m.	61	Andrews Street	"	W. Bascom, Heirs	Mr. Costello	"				Chimney.	
Nov. 2	1:09 a. m.	72	Middlesex Street	"	A. C. Wheelock	Several Families	Dwelling				Torch burning	
" 3	9:48 p. m.	61	Lawrence Street	Stone.	American Bolt Co.	American Bolt Co.	Bolt Manufactory	607.34	65,000	607.34	Drying waste on top boiler.	
" 5	12:14 a. m.	21	Off Congress Street	"	Whittier Cotton Mills.	"	Car of Cotton	42.14			Sparks from locomotive.	
" 7	9:20 a. m.	Still.	Central Street	"	C. H. Kimball	"	Awning				False alarm.	Patrol responded.
" 8	1:00 a. m.	181	Stevens Street	Wood.	C. W. W. Richardson	C. F. Dow	Stable	1,950.00	1,950	1,950.00	Awning and fireworks.	
" 9	9:26 p. m.	Still.	Market Street	Brick.	N. J. Weir	"	"				Supposed incendiary.	Chemical B responded.
" 10	7:45 a. m.	222	"	"	"	"	"				Chimney	
" 10	12:45 p. m.	222	"	"	"	"	"				No school.	
" 12	12:09 p. m.	54	Western Avenue	Wood.	B. & M. R. R.	B. & M. R. R.	Tool House	50.00		50.00	Caught from stove.	Engine 4 responded.
" 14	1:59 p. m.	Still.	Andover Street	"	H. H. Wilder	"	Dwelling				Stove cloth caught fire	
" 16	7:45 a. m.	222	"	"	"	"	"				No school.	
" 18	7:10 p. m.	5	Suffolk Street	Wood.	J. Duckworth	Mrs. Lyons	Dwelling				Chimney.	
" 23	4:31 p. m.	Tel.	Newhall Street	"	W. Coburn	"	Storehouse				Unknown. Caught in partition	
" 24	6:55 p. m.	42	Cemetery	"	"	"	"				Brush set by boys.	
" 25	7:54 p. m.	Still.	Arch Street	Wood.	J. W							

FIRE DEPARTMENT,

JANUARY 1, 1892.

CHIEF ENGINEER.

EDWARD S. HOSMER. { Office, Palmer Street Engine House.
 { Residence, 12 Livermore Street.

ASSISTANT ENGINEERS.

JAMES F. NORTON, . . . Residence, 18 Ames Street
GEORGE F. SALMON, . Residence, 24 Mt. Washington Street
EDWARD MELOY, . . . Residence, 86 Charles Street
HENRY W. BURTON, . . . Residence, 4 Kimball Avenue

CHIEF'S DRIVER.

HARRY B. SAUNDERS, . . . Palmer Street Engine House

TELEGRAPH OPERATOR.

GEORGE B. WHITNEY, . Residence, Palmer Street Engine House

COMMITTEE ON FIRE DEPARTMENT, 1892.

Aldermen—Cassidy and Stowell.

Councilmen—Baxter, O'Neil and McCarthy.

ENGINE COMPANY, No. 1.

HOUSE ON GORHAM STREET.

TWELVE MEMBERS.

Badge.	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
15....	Foreman	C. D. Foley . . .	38	Carpenter	June, 1879....	31 Newhall Street
11....	Ass't Foreman.	T. W. Collins..	36	Permanent	April, 1884....	Engine House
1....	Clerk	Geo. W. Lovett	42	Driver, Wagon	December, 1875	Engine House.
112....	Engineer	J. W. Jantzen .	39	Permanent	February, 1884.	Engine House.
12....	Driver.....	R. O'Connell ..	37	Driver, Engine	May, 1878	Engine House.
17...	Ass't Engineer.	T. McNamara .	48	Machinist	April, 1884 ..	Cor. George and Tyler
19....	Hoseman	G. M. Cleary ..	42	Carpenter.....	August, 1880..	18 Livingston Street.
16....	Hoseman	T. Caruthers ..	47	Stamper	April, 1884....	Engine House.
14....	Hoseman	P. Curtin	40	Moulder	May, 1874	141 Lawrence Street.
12....	Hoseman	S. O'Connell ..	41	Plasterer	April, 1884....	30 Fay Street.
18....	Hoseman	J. Lowney	24	Clerk.....	July, 1892	202 Gorham Street.
10....	Hoseman	B. J. Brady	35	Permanent ...	January, 1893.	Engine House.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Engine Company, No. 1.

Engine, built by Union Machine Company, Fitchburg, Mass., in 1872; has two double acting steam cylinders, $7\frac{1}{8}$ inches in diameter, 8 inch stroke; two double acting pumps, $4\frac{3}{8}$ inches in diameter, arranged to work separately or together; weight when loaded, 7575 pounds. 1 one-horse wagon, built by Abbott-Downing Co., Concord, N. H.; 4 horses, 1 set double and two single harnesses, one pair lead bars, 4 blankets, 1 hose sleigh, 1 fuel wagon, 1 four way chuck, 1 branch connection, 3 pipes with stop nozzles, $12\frac{1}{2}$ inch cap, $1\ 5\times 2\frac{1}{2}$ reducer, 4 small reducers, 6 spanners, 8 lanterns, 4 wrenches, 6 ladder straps, 4 bars, 2 axes, 1 bucket, 1750 feet $2\frac{1}{2}$ inch hose (cotton), 100 feet 1 inch hose (rubber), 1 set blocks, 1 extinguisher, 7 beds and bedding, one mirror, two bureaus, 18 chairs, 3 shovels, one fork, 4 brooms, 1 30-foot rope, 2 pails, 1 12-foot ladder, 1 steam boiler, 1 ash can, 1 coal hod, 4 boxes, 2 blocks, 1 jack screw, 1 carriage jack, 1 copper goose neck, 1 basket, 1 work bench and vise, 6 spittoons, 1 chisel, 1 pair of shafts, 2 oil cans, 12 badges, 12 set buttons, 1 hose washer, 100 feet 1-inch hose, 1 three horse pole, three smoke protectors, and all tools for cleaning and repairing engine.

ENGINE COMPANY, No. 2.

TWELVE MEMBERS.

HOUSE ON BRANCH STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
20	Foreman	A. C. Stearns...	52	Permanent	November, 1862	Engine House.
21	Ass't Foreman.	F. B. Acres...	38	Permanent	May, 1878	Engine House.
2	Clerk	H. Boynton ...	41	Driver, Wagon	April, 1869	Engine House.
29	Engineer	C. S. Hibbert..	47	Permanent	November, 1865	Engine House.
90	Driver	F. Boynton....	31	Driver, Engine	December, 1882	Engine House.
28	Ass't Engineer	E. M. Foster...	33	Machinist	May, 1888.	148 Westford Street.
22	Hoseman	H. R. Morrison	33	Machinist	July, 1882.	Merrimack Street.
23	Hoseman	E. E. Maynard.	31	Clerk	May, 1883.	56 Branch Street.
27	Hoseman	A. S. Maynard	39	Carpenter	November, 1884	18 E. Pine Street.
25	Hoseman	G. A. Bennett.	52	Roofer	May, 1878.	Carlton & Marshall
24	Hoseman	W. L. Hill	27	Bottler	March, 1891...	6 Royal Street.
26	Hoseman	C. E. Alway...	28	Carpenter	February, 1889	45 Summer Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Engine Company, No. 2.

Engine, built by Manchester Locomotive Works, Manchester, N. H.; weight when loaded, 7600 pounds, 6 $\frac{1}{8}$ inch cylinder, 8 inch stroke, 4 $\frac{1}{2}$ inch double acting pumps, two horse hose carriage, built by Leverich & Co., New York, 1900 feet 2 $\frac{1}{2}$ inch cotton hose, 50 feet $\frac{3}{4}$ inch rubber hose, 1 hose sleigh, 1 fuel wagon, 5 horses, 5 harnesses, 5 blankets, 1 two-way chuck and reducer, 1 four-way chuck, 1 branch connection, 4 pipes, 6 spanners, 6 ladder straps, 2 hydrant wrenches, 1 axe, 2 bars, 1 jack screw, 1 pair lead bars, 1 three horse pole, 6 coal boxes, 12 chairs, 3 mirrors, 3 clocks, 1 work bench and vise, 5 beds and bedding, 1 lathe, heater and tank, steam boiler and radiators, 2 set blocks, 2 ash cans, 1 table, 16 badges, 16 set buttons, 1 hose washer, 1 pair steps, 1 pair skids, for loading engine, hose carriages and wagons on cars, 3 smoke protectors, 1 extinguisher, and all other tools for cleaning horses and repairing engine.

ENGINE COMPANY No. 3.

TWELVE MEMBERS.

HOUSE ON PALMER STREET.

Badge	Rank	Name.	Age.	Occupation.	Joined Dept.	Residence.
30	Foreman	F. Hoyt	44	Permanent	August, 1873 . .	Engine House.
31	Ass't Foreman	O. A. Knapp . . .	28	Permanent	July, 1889 . . .	Engine House.
32	Clerk	L. C. Brainard	34	Driver, Wagon	February, 1889	Engine House.
33	Engineer	M. I. Collins . .	37	Engineer	April, 1888 . . .	Engine House.
34	Driver	B. C. Reed . . .	39	Driver, Engine	August, 1885 . .	Engine House.
35	Ass't Engineer.	J. G. Merchant	54	Engineer	April, 1870 . . .	188 Westford Street.
36	Hoseman	F. E. Roark . . .	43	Lighter	July, 1875 . . .	80 Middle Street.
37	Hoseman	G. T. Halstead	35	Permanent	November, 1883	Engine House.
38	Hoseman	L. A. Brainard	36	Surveyor	January, 1893 .	21 School Street.
39	Hoseman	F. E. Turner . .	29	Clerk	July, 1892 . . .	3 Hamilton Corp.
40	Hoseman	H. Coulam . . .	39	Second-hand . . .	March, 1876 . .	Hamilton Corp.
41	Hoseman	A. E. Dearth . .	32	Carpenter	June, 1891 . . .	Dutton Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Engine Company, No. 3.

Engine, built by Manchester Locomotive Works; weight when loaded, 9300 pounds, 35 feet suction hose, with hydrant couplings, 1 one-horse hose wagon, 5 horses, 1 set three horse hitch and 1 set double harness, 4 halters, 5 blankets, 1650 feet 2½ inch cotton hose, 1 four-way chuck and reducer, 1 reducer and cap, 1 six-way Lowry truck, 4 pipes, 2 stop nozzles, 2 branch connections, 2 hydrant wrenches, 4 spanners, 1 bar, 1 shovel, 4 ladder straps, 6 lanterns, 7 beds and bedding, 2 mirrors, 2 clocks, 15 chairs, 1 hose rope, 1 jack screw, 1 monkey wrench, 1 carriage jack, 26 badges, 12 set buttons, 1 hose washer, 1 extinguisher, 3 smoke protectors, and all tools for cleaning horses and repairing engine.

ENGINE COMPANY, No. 4.

TWELVE MEMBERS.

HOUSE ON HIGH STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dep't.	Residence.
40	Foreman	J. J. Quinlan . .	34	Permanent	August, 1871 . .	Engine House
47	Ass't Foreman . .	J. E. Burns . . .	32	Market	February, 1882	7 Prescott Corp.
4	Clerk	W. King	50	Driver, Wagon . .	November, 1863	Engine House
41	Driver	J. J. Harrington	42	Driver, Engine . .	November, 1869	Engine House
134	Engineer	F. G. Collins . .	34	Permanent	December, 1889	Engine House
45	Ass't Engineer . .	C. Morse	51	Engineer	May, 1865	58 Fairmount Street
44	Hoseman	M. Connors	42	Plasterer	March, 1883 . . .	55 Pleasant Street.
42	Hoseman	J. E. Sullivan . .	40	Permanent	May, 1883	Engine House.
43	Hoseman	J. Dolan	52	Painter	May, 1865	75 Concord Street.
46	Hoseman	J. P. Smith . . .	29	Clerk	September, 1886	77 Concord Street.
48	Hoseman	T. Tighe	35	Finisher	December, 1888	39 Concord Street.
49	Hoseman	B. F. Freeman . .	48	Lamp-Lighter . .	January, 1893	21 Fort Hill Avenue.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Engine Company, No. 4.

Engine, built by Manchester Locomotive Works, Manchester, N. H.; weight 8000 pounds, $6\frac{7}{8}$ inch cylinder, 8 inch stroke, $4\frac{1}{2}$ inch double acting pumps, 1 one-horse hose wagon, built by Abbott-Downing Co., Concord, N. H., 1 horse sleigh, 5 horses, 1 set three horse hitch and one set double harness, 1500 feet cotton hose, 50 feet rubber hose, 1 carriage jack, 2 clocks, 2 mirrors, 1 table, 16 chairs, 2 dusters, 2 shovels, 4 pails, 5 spittoons, 1 fuel wagon, 6 beds and bedding, 1 bureau, 12 set buitons, 20 badges, 12 spanners, 5 ladder straps, 1 jack screw, 6 coal boxes, 1 $5 \times 2\frac{1}{2}$ reducer, 1 hose washer, 1 extinguisher, 5 blankets, 1 bench and vise, 1 steam boiler and radiators, 1 heater and boiler, 1 pair steps, 3 bars, 5 pipes, 2 pair reducing couplings, 1 three horse pole, 1 two horse hose reel, oil tank, 1 four-way and 1 two-way chuck, 1 branch connection, 3 ash cans, 3 smoke protectors, shovels, brooms, and all tools for cleaning horses and repairing engine.

ENGINE COMPANY, No. 5.

TWELVE MEMBERS.

HOUSE, MAMMOTH ROAD, PAWTUCKETVILLE.

Badge.	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
152....	Foreman	E. W. Bartlett.....	45	Permanent	May, 1883	Engine House.
52....	Ass't Foreman.	J. H. Joyce	50	Permanent	June, 1864	Engine House
5....	Clerk	H. C. Fernald	40	Permanent ...	Feb., 1882	Engine House.
50....	Driver.....	G. F. Flint.....	31	Permanent	Aug., 1892	Engine House.
51....	Engineer	C. L. Brown.....	39	Permanent	Jan., 1893	Engine House.
53....	Ass't Engineer.	J. P. Fowler	44	Carpenter	May, 1883	84 Fourth Avenue.
55....	Hoseman	A. F. Cogger	48	Piper	May, 1883	White Street.
57....	Hoseman	S. S. Page	44	Mason	May, 1888	8 Second Avenue.
58....	Hoseman	J. J. Frazier	36	Moulder	June, 1892	5 Clinton Avenue.
59....	Hoseman	M. A. Mooney.....	25	Painter	June, 1892	9 Mammoth Road.
56....	Hoseman	R. B. Seeton	43	Brass Finisher.	Aug., 1892	Fourth Avenue.
54....	Hoseman	J. J. McManamon .	21	Machinist	Jan., 1893	Second Avenue.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Engine Company, No. 5.

Steamer, built by the American Fire Engine Company, Seneca Falls, N. Y. ; weight 7350 pounds, two-horse hose wagon, built by J. H. Swett, of Lowell, weight when loaded, 4300 pounds, 1800 feet cotton hose, 1 four-way chuck, 3 hydrant wrenches, 50 feet rubber hose, 1 carriage jack, 6 horses, 6 harnesses, 2 clocks, 2 mirrors, 1 table, 24 chairs, 2 dusters, 2 shovels, 4 pails, 5 spittoons, 7 beds and bedding, 25 badges, 12 set buttons, 6 spanners, 4 ladder straps. 1 jack screw, 6 coal boxes, 1 hose washer, 2 extinguishers, 1 work bench and vise, 3 hooks, 4 pipes, 2 axes, 6 lanterns, 2 three-horse poles, and all other tools for cleaning horses and repairing steamer ; 6 horse blankets.

ENGINE COMPANY, No. 6.

HOUSE ON FLETCHER STREET.

TWELVE MEMBERS.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
135	Foreman	D. J. Hurley...	41	Permanent	May, 1879.	Engine House.
63	Ass't Foreman.	E. W. Fletcher	39	Moulder.	June, 1874	68 L. M. S. Corp.
6	Clerk	J. A. Fletcher	36	Driver, Wagon	May, 1880	Engine House.
61	Hoseman	T. H. Rogers..	41	Permanent	December, 1888	Engine House.
64	Hoseman	T. F. Welch...	43	Cabinet Maker.	June, 1884	49 Common Street.
65	Hoseman	J. J. Murray...	41	Cabinet Maker.	July, 1885.	91 Bowers Street.
60	Driver	S. R. Pendexter	40	Driver, Engine	June, 1892.	Engine House.
62	Engineer.....	H. H. Sawtell..	38	Permanent	June, 1892.	Engine House.
67	Hoseman	J. Musick	31	Blacksmith	July, 1885	Engine House.
69	Ass't Engineer	E. Perham	32	Box Maker	July, 1892	82 Common Street.
66	Hoseman	R. E. Burns...	27	Cabinet Maker.	December, 1888	16 Nichols Street.
79	Hoseman	T. F. Maguire..	26	Clerk	July, 1892	32 Butterfield Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Engine Company, No. 6.

Engine, built by Manchester Locomotive Works, Manchester, N. H.; weight when loaded, 9300 pounds, 36 feet suction hose, hydrant couplings, 1 horse hose wagon, built by Abbott-Downing Co., Concord, N. H., 1 horse hose sleigh, 5 horses, 5 harnesses, 1 bridle, 1 extinguisher, 1900 feet $2\frac{1}{2}$ inch cotton hose, 4 pipes and 2 stop nozzles, 12 spanners, 1 four-way chuck, 1 two-way chuck, 2 reducers, 2 bars, 3 brooms, 1 carriage jack, 4 pails, 1 connection with cap, 4 ladder straps, 1 duster, 1 ladder, 1 step ladder, 1 brush, 11 lanterns, 8 spittoons, 2 shovels, 20 chairs, 7 beds and bedding, 2 axes, 1 ash can, 2 clocks, 2 mirrors, 1 gas stove, 1 boiler and radiator, 21 badges, 12 set buttons, 1 hose washer, 3 tons steamer coal, 1 bench and vise, 50 feet $\frac{3}{4}$ inch hose, 1 oil tank, 1 fork, 3 smoke protectors, and all tools for cleaning horses and repairing engine.

HOSE COMPANY No. 7.

NINE MEMBERS.

HOUSE ON CENTRAL STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
72	Foreman	E. Cunningham	45	Steam Fitter..	August, 1866..	82 Charles Street,
70	Ass't Foreman.	C. Riley.....	37	Permanent	May, 1880.	Hose House.
7	Clerk	E. O'Connell..	35	Driver	August, 1878..	Hose House.
75	Hoseman	J. Sullivan	26	Permanent	July, 1892	Hose House.
73	Hoseman	P. Emerson....	34	Carpenter	February, 1883	2 Madison Street.
74	Hoseman	E. Crowley	38	Coppersmith ..	February, 1883	Hose House.
71	Hoseman	P. McLaughlin	37	Permanent	August, 1888..	Hose House.
76	Hoseman	J. Freeman	35	Lamp Lighter..	October, 1888..	19 Keene Street.
77	Hoseman	J. Emerson	30	Upholsterer ...	July, 1889	2 Floyd Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Hose Company, No. 7.

One two-horse hose carriage with poles and shafts, 1 hose sleigh, 2 horses, 1 set double harnesses, 2 blankets, 2 forks, 2 brooms, 1600 feet $2\frac{1}{2}$ inch cotton hose, 50 feet $\frac{3}{4}$ inch rubber hose, 2 pipes and stop nozzles, 6 lanterns, 1 axe, 1 four-way chuck, 1 two-way chuck, 2 wrenches, 1 reducing coupling, 1 cap, 4 spanners, 3 ladder straps, 1 branch connection, 2 dusters, 1 carriage jack, 6 beds and bedding, 10 chairs, 1 carpet, 4 spittoons, 2 clocks, 2 oil cans, 1 extinguisher, 2 shovels, 2 pails, 2 mirrors, 1 hose washer, 1 pair steps, 1 wagon, 2 bridles, 1 table, 9 badges, 9 set buttons, 1 boiler and radiators, 3 smoke protectors, and all tools for cleaning horses.

HOSE COMPANY, No. 8.

NINE MEMBERS.

HOUSE ON MERRIMACK STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dep't.	Residence.
150	Foreman	W. J. Flynn . . .	40	Permanent	April, 1885	Hose House.
86	Hoseman.	D. H. Crowley.	32	Permanent	February, 1890	Hose House.
87	Hoseman	W. F. Tighe . . .	30	Plumber	September, 1892	2 Jefferson Street.
88	Hoseman	H. C. Dana	28	Machinist	October, 1888 . .	64 L. M. S. Corp.
151	Clerk	B. J. Dunn	30	Driver	February, 1890	Hose House.
89	Hoseman	D. F. Smith	33	Shoemaker	January, 1893 . .	230 Market Street.
85	Hoseman	L. S. Kimball . . .	42	Roll Coverer	May, 1869	16 John Street.
83	Ass't Foreman.	E. F. Saunders	27	Baker	February, 1890	Hose House.
136	Hoseman	J. F. Convery.	39	Carpenter	January, 1893	39 Adams Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Hose Company, No. 8.

One two-horse hose carriage, 1 two-horse sleigh, 2 horses, 1 set double harnesses, 2 bridles, 2 blankets, 1 extinguisher, 1800 feet $2\frac{1}{2}$ inch cotton hose, 2 pipes and shut off nozzles, 6 spanners, 1 four-way chuck, 1 bar, 1 axe, 3 ladder straps, 3 mops 3 wrenches, 1 carriage jack, 3 brooms, 2 ash cans, 1 step ladder, 3 shovels, 5 cuspidores, 2 clocks, 1 water cooler, 1 mirror, 2 pails, 2 dusters, 1 rubber mat, 11 chairs, 5 beds and bedding, 5 rugs, 1 boiler and radiators, 20 badges, 3 set buttons, 1 window brush, 1 scrub brush, 1 hose washer, 1 half peck measure, 2 forks, 50 feet $\frac{3}{4}$ inch rubber hose, 4 lanterns, 3 smoke protectors, and all tools for cleaning horses.

ENGINE COMPANY, No. 9.

HOUSE ON LINCOLN STREET.

SIX MEMBERS.

Badge.	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
91	Foreman	S. E. Bartlett.....	44	Permanent	Nov. 1867.	Hose House.
92	Clerk	P. S. Webster	45	Driver.....	May, 1884	Hose House.
93	Hoseman	G. H. Chapman.....	37	Wood Dealer..	May, 1885	38 Lincoln Street.
94	Ass't Foreman.	J. Baxter	34	Permanent ...	July, 1883	Hose House.
95	Hoseman	J. E. Wilkins	45	Machinist	July, 1883	6 Main Street.
96	Hoseman	P. J. Clune... ..	31	Machinist	Nov. 1890.	Hose House.

SCHEDULE OF PROPERTY .

Belonging to the City, in Care of Hose Company, No. 9.

One one-horse hose wagon, built by the Abbott-Downing Co., Concord, N. H., 1 sleigh, 1 horse, 1 harness, 1 blanket, 1 four-way chuck, 2 wrenches, 2 pipes and stop nozzles, 5 spanners, 1 bar, 3 ladder straps, 2 lanterns, 50 feet $\frac{3}{4}$ inch rubber hose, 1300 feet $2\frac{1}{2}$ inch cotton hose, 1 carriage jack, 2 clocks, 2 mirrors, 1 table, 22 chairs, 1 ash can, 1 duster, 1 shovel, 2 pails, 5 spittoons, 6 beds and bedding, 17 badges, 1 dust pan, 1 brush, 3 brooms, 1 oil can, 5 mats, 1 extinguisher, 1 steam boiler and radiators, 1 hose washer, 3 smoke protectors, and all tools for cleaning horse.

HOSE COMPANY, No. 10.

NINE MEMBERS.

HOUSE ON FOURTH STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dep't.	Residence.
50	Foreman	C. F. Hemenway	43	Permanent	September, 1875	Hose House.
55	Ass't Foreman.	F. Mansur	43	Carpenter	November, 1874	45 Fifth Street.
5	Clerk	A. E. Kidder . .	37	Driver	October, 1877 . .	Hose House.
54	Hoseman	A. Merrill	55	Truckman	December, 1873	25 Fifth Street.
51	Hoseman	E. L. Hewes . . .	31	Tinsmith	November, 1886	95 Bridge Street.
56	Hoseman	F. D. Morey . .	28	Carpenter	November, 1887	11 Methuen Street.
53	Hoseman	J. McCafferty . .	29	Permanent	November, 1887	Hose House.
57	Hoseman	J. McKissock . .	40	Carpenter	July, 1889 . . .	383 Beacon Street.
52	Hoseman	Fred Mansur . .	34	Carpenter	October, 1889 . .	13 Third Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Hose Company, No. 10

One two-horse hose carriage, built by the Manchester Locomotive Works, Manchester, N. H., 2 horses, 1 set double harnesses, 2 bridles, 2 blankets, 1750 feet $2\frac{1}{2}$ inch cotton hose, 25 feet $\frac{3}{4}$ inch rubber hose, 2 pipes and stop nozzles, 1 reducer, 1 two-way and 1 four-way chuck, 1 branch connection, 1 reducing coupling, 1 cap, 8 spanners, 2 wrenches, 6 lanterns, 2 bars, 1 ladder, 1 axe, 1 carriage jack, 4 beds and bedding, 20 chairs, 1 table, 1 clock, 2 pails, 3 shovels, 3 brooms, 2 forks, 1 duster, 1 sifter, 3 ash cans, 2 oil cans, 3 spittoons, 1 set blocks, 140 feet of rope, 1 pulley, 1 hose sleigh, 1 fuel wagon, 1 boiler and radiators, 10 badges, 9 set buttons, 1 pair steps, 3 smoke protectors, and all tools for cleaning horses, 1 hose washer.

HOSE COMPANY No. 11.

NINE MEMBERS.

HOUSE ON LAWRENCE STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
200	Foreman . . .	J. J. Jennings.	34	Permanent . . .	November, 1883	Hose House.
201	Ass't Foreman	W. A. Dolan..	28	Permanent . . .	January, 1888.	Hose House.
202	Clerk	J. Bamford . . .	35	Driver	December, 1889	Hose House.
203	Hoseman	E. Jennings . . .	36	Machinist . . .	January, 1893..	345 Lawrence Street.
204	Hoseman	J. O'Hare	28	Finisher	January, 1893..	17 Prospect Street.
205	Hoseman	T. J. Dwyer . . .	30	Machinist . . .	January, 1893..	276 Central Street.
206	Hoseman	George Buck . . .	27	Bolt Maker . . .	January, 1893..	8 Swift Street.
207	Hoseman	J. J. Doherty . .	30	Fruit Dealer . .	January, 1893..	18 Mill Street.
208	Hoseman	J. F. Welch . . .	27	Piper	January, 1893..	149 Lawrence Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Hose Company, No. 11.

One one-horse hose wagon, built by John Swett of this city, with pole and shafts, 2 horses, 2 harnesses, 2 blankets, 1 extinguisher, 1500 feet $2\frac{1}{2}$ inch cotton hose (rubber lined), 2 pipes and stop nozzles, 4 spanners, 1 four-way chuck, 1 bar, 3 brooms, 1 carriage jack, 2 pails, 2 ladder straps, 2 dusters, 2 brushes, 2 lanterns, 12 spittoons, 2 shovels, 18 chairs, 5 beds and bedding, 1 axe, 2 ash cans, 2 clocks, 3 mirrors, 1 steam boiler and radiators, 20 badges, 3 set buttons, 50 feet $\frac{3}{4}$ inch rubber hose, 1 table, 1 dust pan, oil tank and can, door mat, 6 rugs, water heater, hose washer, 3 mops, and all tools for cleaning horses, 4 smoke protectors.

TRUCK COMPANY, No. 1.

TEN MEMBERS.

HOUSE ON LAWRENCE STREET.

Badge.	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
209	Foreman	A. H. Gibson	36	Permanent ...	Feb. 1884.	Ladder House.
210	Ass't Foreman.	T. Brown	36	Permanent	May, 1890	Ladder House.
212	Clerk	W. B. Ryan	32	Driver	July, 1892	Ladder House.
211	Ladderman	J. O'Hare	26	Teamster	Jan. 1893	117 Chapel Street.
213	Ladderman . .	J. F. McGuinness..	30	Cloth Finisher.	Jan. 1893.	34 Floyd Street.
214	Ladderman	J. B. Stanton	32	Wool Sorter ...	Jan. 1893.	17 Newhall Street.
215	Ladderman	J. D. Finnegan	27	Clerk	Jan. 1893	185 Lawrence Street.
216	Ladderman	J. McNamara	30	Machinist	Jan. 1893.	13 Lawrence Street.
217	Ladderman	W. H. Sullivan	27	Teamster	Jan. 1893.	187 Lawrence Street.
218	Ladderman ...	William Gilmore...	34	Clerk	Jan. 1893	49 Hudson Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Truck Company, No. 1

Hook and ladder truck, built by Buckley & Merritt, of New York, 1 Bangor ladder (65 feet), 2 30 feet, 1 25 feet, 3 roof ladders (one 15, one 18 and one 12 feet), 1 door opener, 1 wrench, 4 forks, 2 axes, 2 buckets, 2 lanterns, 4 shovels, 4 bars, 3 horses, 3 harnesses, 3 blankets, 100 feet $\frac{1}{2}$ inch rope, 18 chairs, 3 brooms, 5 beds and bedding, 23 badges, 3 set buttons, 1 three horse pole, 2 pails, whip, 3 mirrors, 2 clocks, 2 dusters, 3 hooks, 6 rugs, 4 smoke protectors, 5 brushes, 1 jack screw, and all tools for cleaning horses, 12 spittoons, 4 smoke protectors, 1 table.

TRUCK COMPANY, No. 2, with CHEMICAL ENGINE ATTACHED.

THIRTEEN MEMBERS.

HOUSE ON WESTFORD STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
121	Foreman	D. W. Hilliard	42	Permanent	August, 1872..	Truck House.
120	Clerk	G. W. Alcott..	39	Driver.	October, 1877..	Truck House.
130	Driver	G. A. Dickey..	44	Driver, Chem.	November, 1888	Truck House.
132	Ladderman	H. S. Gardner.	41	Permanent	May, 1874	Truck House.
131	Ladderman	E. E. Smith....	38	Permanent	January, 1890	Truck House.
123	Ass't Foreman.	C. A. Thompson	48	Carpenter	May, 1880	Kimball Avenue.
125	Ladderman	G. A. Maynard.	35	Carpenter ...	October, 1888..	E. Pine Street.
129	Ladderman	L. A. Miller...	29	Box Maker	November, 1890	5 Lane Street.
127	Ladderman ...	D. D. Libbee...	28	Carpenter	June, 1892	Truck House.
128	Ladderman	C. Stackpole...	37	Clerk	January, 1883	66 School Street.
126	Ladderman	S. A. Pickering	31	Carpenter	November, 1890	22 Branch Street.
122	Ladderman	A. I. Laughton.	38	Tinsmith	October, 1891..	3 Barclay Street.
124	Ladderman	Q. A. Foster...	39	Machinist	June, 1889	34 E. Pine Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Truck Company. No. 2.

Hook and ladder truck, built by Jucket & Freeman, of Boston, rebuilt by the City, weight 5000 pounds, single tank chemical engine, rebuilt by the City, weight 3200 pounds, 1 Bangor ladder 55 feet long, two 35 feet ladders, 4 roof ladders (two 25 feet long and two 20 feet long), one 16 foot ladder, 6 prop hooks, 5 axes, 2 adjustable hooks for roof ladders, 3 shovels, 6 lanterns, 4 forks, 2 rakes, 1 door opener, 3 bars, 200 feet rope, 4 pails, 2 whips, 2 carriage jacks, 25 chairs, 1 table, 2 mirrors, 3 clocks, 2 dusters, 1 brush, 50 feet $\frac{3}{4}$ inch rubber hose, 250 feet 1 inch rubber hose, 3 plaster hooks, 1 hay hook, 4 small hay hooks, 2 wrenches, 3 chain dogs, 3 ash cans, 5 horses, 2 sets double and one single harness, 5 blankets, 5 halter bridles, 8 beds and bedding, 22 badges, 12 sets buttons, 20 feet $1\frac{1}{2}$ inch rubber hose, 1 three-horse hitch or pole, 1 exercise wagon, 3 smoke protectors, and all tools for cleaning horses.

BABCOCK TRUCK COMPANY, No. 3, with CHEMICAL ENGINE ATTACHED.

THIRTEEN MEMBERS.

HOUSE ON PALMER STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
110	Foreman	F. E. Fuller...	43	Permanent....	May, 1869	Truck House.
141	Ass't Foreman.	H. F. Harris ..	40	Permanent....	November, 1888	Truck House.
112	Clerk	F. O. Townsend	38	Driver.	May, 1886.	Truck House.
140	Ladderman....	Wm. F. Foss ..	28	Permanent....	April, 1892....	Truck House.
113	Ladderman....	F. W. Simons ..	41	Permanent....	September, 1872	Truck House.
111	Ladderman....	T. H. Welch ..	35	Permanent....	November, 1887	Truck House.
142	Driver	H. A. Merrill..	30	Driver, Chem.	June, 1884....	Truck House.
143	Ladderman....	T. Dwyer	29	Permanent....	Sept., 1888 ...	Truck House.
116	Ladderman ...	W. P. Maker..	28	Machinist	Sept., 1888	3 L. M. S. Corp.
117	Ladderman....	D. Leary	28	Steam Fitter ..	Sept., 1892	199 Broadway.
118	Ladderman....	H. C. Wilkins.	34	Clerk	January, 1890.	13 Wauchusett St.
114	Ladderman....	E. Kerwin	43	Piper	May, 1871	Central and Mill.
115	Ladderman....	E. H. Dearth ..	38	Painter	January, 1893	6 Carpet Corp.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Truck Company, No. 3.

Aerial truck, built by the Fire Extinguishing Co., of Chicago, in 1888, weight 8100 pounds, 1 two and 1 three horse pole, 1 single tank chemical engine, rebuilt by the City, 5 horses, 1 extension ladder (85 feet), one 55 feet, two 16 feet, one 35 feet, one 30 feet, two 20 feet, three 12 feet, one 14 feet, one 24, one 21 and one 19 foot ladder, 1 door opener, 1 bar, 4 iron stakes, 1 sledge, three 100 foot ropes, 2 forks, 2 shovels, 6 hay forks, 6 bail hooks, 1 hammer, $\frac{1}{2}$ wire cutter, 4 buckets, 8 lanterns, 7 axes, 2 monkey wrenches, 1 carriage jack, 1 jack screw, 250 feet 1 inch rubber hose, 50 feet $1\frac{1}{2}$ inch cotton hose, 2 spanners, $\frac{1}{2}$ keg of soda, 1 carboy of vitriol, 5 blankets, 1 set of three horse and 1 set of double harnesses, 2 tables, 28 chairs, 3 clocks, 9 beds and bedding, 6 spittoons, 6 mops, 6 pails, 1 water cooler, 10 rugs, 2 mirrors, 26 badges, 10 set buttons. 50 feet $\frac{3}{4}$ inch hose, 1 pair lead bars, 2 dusters, 3 brushes, 3 smoke protectors, and all tools for cleaning horses.

TRUCK COMPANY, No. 4.

TEN MEMBERS.

HOUSE ON FOURTH STREET.

Badge.	Rank.	Name.	Age.	Occupation.	Joined Dept.	Residence.
102	Foreman	H. B. Downs	59	Carpenter	July, 1863	Fremont Street.
101	Ass't Foreman.	Wm. Marsden.	38	Permanent ...	Feb. 1882.	Truck House.
100	Clerk	W. L. Peabody	44	Permanent	Nov. 1874.	Truck House.
105	Ladderman	R. W. Stickney	31	Janitor	May, 1889	Post Office Block.
104	Ladderman . .	F. C. Lourey	26	Carpenter	Nov. 1888.	Fifth Street.
116	Ladderman	N. Bishop	54	Lighter	July, 1855	June Street.
103	Ladderman	T. McCormick	38	Linenman	May, 1886.	Albion Street.
109	Ladderman	G. F. Sargent	39	Permanent	Feb. 1879.	Truck House.
107	Ladderman	J. W. Adams	42	Carpenter	Aug. 1874.	161 Central Street.
108	Ladderman	W. N. Flagg	46	Carpenter	Feb. 1881 .	Kirk Street.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Truck Company, No. 4.

Hook and ladder truck, built by J. Swett, Lowell, 5 extension ladders (55, 35, 25, 20 and 10 feet respectively), 2 roof ladders (18 and 20 feet respectively), 1 single ladder 20 feet long, 4 props, 6 hooks, 1 door opener, 1 jimmie, 4 axes, 4 lanterns, 4 shovels, 3 horses, 3 harnesses, 3 blankets, 10 chairs, brooms, 3 beds and bedding, 17 badges, 10 set buttons, 1 three horse pole, 1 pair lead bars, 3 smoke protectors, and all tools for cleaning horses.

PROTECTIVE COMPANY, No. 1.

FIVE MEMBERS.

HOUSE ON WARREN STREET.

Badge	Rank.	Name.	Age.	Occupation.	Joined Dep't.	Residence.
80	Foreman	J. L. Flagg	57	Permanent	February, 1875	Protective House.
8	Clerk	J. Cowell	45	Driver	December, 1875	Protective House.
79	Ass't Foreman.	W. H. Halstead	48	Permanent	May, 1864 . .	Protective House.
84	. . . . .	D. W. Russell .	39	Permanent	January, 1885..	Protective House.
81	. . . . .	J. W. Halstead	41	Permanent	January, 1872..	Protective House.

SCHEDULE OF PROPERTY

Belonging to the City, in Care of the Protective Company.

One wagon Complete, built by the Abbott-Downing Co., Concord, N. H., 1 traverse-runner sleigh, 1 extra pole, 2 extra wheels, 2 horses, 1 set double harnesses, 4 blankets, 2 Johnson pumps, 6 extinguishers, 1 Siamese connection, 85 pounds soda, 125 pounds vitriol, 24 soda cans, 240 vitriol bottles, 8 brooms, 7 shovels, 4 squillgees, 3 iron pails, 3 large sponges, 2 axes, 1 pick, 2 bars, 2 hammers, 36 spikes, 2 augers, 1 lath rake, 2 monkey wrenches, 12 lanterns, 2 ten-foot folding ladders, 1 Spencer canvas chute, and Dixon arrow gun, 2 dust pans, 60 gallon oil tank, 2 oil cans, 5 cap and 5 regulation badges, 5 set buttons, 6 beds and bedding, 24 chairs, 3 mirrors, 2 clocks, 1 table, 2 bureaus, 1 carpet, water cooler, boiler and radiators, 50 feet $\frac{5}{8}$ inch and 50 feet $\frac{7}{8}$ inch rope, 50 feet $\frac{3}{4}$ inch rubber hose, 104 rubber covers, 4 ash cans, 4 mops, 3 chamois skins, 3 stable pails, 2 carriage jacks, 2 stable brooms, 2 dusters, 3 pair of steps, 1 set of blocks, 3 spittoons, 2 cells Bradbury-Stone Storage Battery for head lights, 2 jimmies, 1 acid pump, 8 smoke protectors, 1 canvas blanket, 1 pair rubber gloves, and all tools for cleaning horses.

Location of Signal Boxes.

- 4—Dutton Street, opposite Parker and Cheney's.
- 5—Corner of Cushing and Fletcher Streets.
- 6—Corner of Broadway and Mt. Vernon Street.
- 7—Corner of Market and Dutton Streets.
- 8—Corner of Westford and School Streets.
- 9—Corner of Common and Salem Streets.
- 12—Market Street, Police Station.
- 13—Corner of Prescott and Merrimack Streets.
- 14—Corner of Fayette and Andover Streets.
- 15—Bleachery Street, on Bleachery stable.
- 16—Hosford Square.
- 17—Corner of Middlesex and Walker Streets.
- 18—Junction of Hale and Lincoln Streets.
- 19—Corner of Gorham and Union Streets.
- 21—Corner of Kirk and Merrimack Streets.
- 23—Corner of Coburn Street and Lakeview Avenue.
- 24—Corner of Middlesex and South Streets.
- 25—Merrimack Street, near Tremont House.
- 26—Corner of Fletcher and Pawtucket Streets.
- 27—Corner of Riverside Street and Mammoth Road.
- 28—Corner of Hall and Aiken Streets.
- 29—Corner of Tenth and Myrtle Streets.
- 31—Corner of High and East Merrimack Streets.
- 32—Corner of Bridge and Tenth Streets.

- 33—Corner of Broadway and Walker Street.
- 34—Lincoln Street, on Tannery.
- 35—Corner of Charles and Lawrence Streets.
- 36—City Farm, on pole.
- 37—Corner of Whipple and Kinsman Streets.
- 38—Fair Grounds, on building.
- 39—Corner of Fletcher Street and Broadway.
- 41—Corner of Wyman and Nesmith Streets.
- 42—Middlesex Street, old Engine House.
- 43—Highland Street, Edson School House.
- 45—Engine House, Branch Street.
- 46—Corner of First and Bridge Streets.
- 47—Andover Street, near B. F. Butler's driveway.
- 48—Corner of Dover and Grove Streets.
- 49—Corner of Nesmith and Chestnut Streets.
- 51—Junction of Gorham and Thorndike Streets.
- 52—Corner of Moody and Austin Streets.
- 53—Central Street, near Boston & Maine Depot.
- 54—School Street, near Gas Works.
- 56—Middle Street Engine House.
- 57—Warren Street, opposite George Street.
- 61—Lawrence Street, above Stott's Mills.
- 62—Corner of Bowers and School Streets.
- 63—Corner of Hale and Howard Streets.
- 64—Corner of Third and Myrtle Streets.
- 65—River Street, near Aiken Street Bridge.
- 67—Hildreth Street, opposite Lilley Avenue.
- 68—Corner of Sixth and Fremont Streets.
- 71—Middlesex Village, opposite Hotel, on pole.
- 72—Middlesex Street, opposite Huntoon's Stable.
- 73—Mammoth Road, near City Line.
- 74—Varnum Avenue.
- 81—Corner of Pine and Wilder Streets.
- 82—Corner of Chelmsford and Grand Streets.

- 83—Corner of Powell and Smith Streets.
- 84—Corner of Westford and Gates Streets.
- 85—Corner of Pine and Marlborough Streets.
- 92—Bridge Street, opposite Whitney's.
- 114—High Street, corner Porter.
- 115—Corner Moore and South Whipple Streets.
- 121—Western Avenue, near Railroad Crossing.
- 125—Market Street, opposite Lewis Street.
- 128—Counting Room of the Tremont & Suffolk Mills (private)
- 129—Corner of Beacon and Methuen Streets.
- 131—Corner of East Merrimack and Howe Streets.
- 132—Pumping Station.
- 134—Main Street, Corner of Plain Street.
- 135—Perry Street, Electric Light Station.
- 136—Corner of Stevens and Parker Streets.
- 138—Corner of Lumberg and Gorham Streets.
- 141—Corner of Fairmount and Talbot Streets.
- 149—Alder Street, corner of Bartlett Street.
- 152—Corner of Merrimack and Spaulding Streets.
- 161—Faulkner's Mills, Lawrence Street (private).
- 162—Pawtucket Street, opposite ice houses.
- 163—Tanner Street, near Scannell & Wholey's.
- 165—Corner of Lakeview Avenue and Fred Street.
- 171—Corner of Middlesex and Pawtucket Streets.
- 172—Corner of Appleton and Favor Streets.
- 181—Corner of Stevens and Westford Streets.
- 183—Mason Street, corner of South Loring Street.
- 185—Corner of Pine and Westford Streets.
- 214—Nesmith Street, near Rogers Street.
- 215—Meadowcroft Street, near Bolt Street.
- 225—Corner of Little and Lewis Streets.
- 241—Rogers Street.
- 271—Lowell & Suburban Railway Power Station.
- 283—Corner of Chelmsford and Forrest Streets.

FIRE-ALARM TELEGRAPH

Location—Engine House, Palmer Street.

GEORGE B. WHITNEY, OPERATOR.

10 Circuit Automatic Repeater, with Battery of.....	400	Cups
Miles of Line Wire.....	91	
Signal Boxes	92	
Engineer's Gongs.....	9	
Engine House Gongs.....	15	
Indicators.....	16	
Bell Strikers.....	10	
Gong and Indicator combined, Police Station.....	1	
Gong in Pumping Station.....	1	

The strikers are located as follows: Palmer Street Engine House, Varnum School House, High Street Church, Court House, No. 1 Engine House, Franklin School House, Pawtucketville Engine House, No. 7 Engine House, Highland School House and Lawrence Street Engine House.

Magneto Bell Telephone Circuit.

Complete Stations.....	18
Extension Bells.....	19
Miles of Wire.....	36

SCHEDULE OF PROPERTY

Belonging to the City, in Care of Fire Alarm Operator.

One 10 circuit non-interfering automatic repeater, 1 cut out testing switch board, 1 line testing machine, 11 galvanometers, 89 public and 3 private signal boxes (non-interfering), 10 bell strikers, 15 large gongs, 9 small gongs, 16 registers, 16 electrical arrangements for opening stall doors, 91 miles of wire, 400 cups of battery, 18 magneto call bells, 19 extension bells, 36 miles of wire, 23 electric light current protectors, 1 barrel of glass insulators, 12 pole brackets, 2 saws, 2 hammers, 2 screw drivers, 2 straps with vises, 2 draw straps with clutchers, pliers, tongs, set bits and bit stock, 3 shovels, 2 bars, 1 pick, 2 spoons, 1 tamping bar, 1 cant hook, 1 broad axe, 2 pike poles, 3 pairs of climbers, 1 deadman, 3 ladders, $\frac{1}{2}$ mile of wire, 1 draw shave, fire alarm box keys, locks, outside shells, doors to boxes, pocket relay, lanterns, desk table, chairs, dusters, chamois skin, 9 barrels blue vitriol, 1 horse, harness, blankets, 3 wagons, sleigh, etc.

SCHEDULE OF PROPERTY

Belonging to the City, in the Palmer Street Engine House.

One horse, harness, wagon and sleigh for the Chief's use, 1 one horse hose carriage, 3400 feet $2\frac{1}{2}$ inch cotton hose, 2 two-way chucks, 2 lathes, grindstone, tools, poles, shafts, ladders, feed, salt, boiler and radiators, etc.

In Chief's office: 2 desks, set of drawers, 1 table, 16 chairs, 2 beds and bedding, 1 silver and 2 brass trumpets, mirror, cloth, badges, buttons, 3 set dies for department buttons, 1 set dies for department badge, 1 large clock (Lawrence patent), 1 small stop clock, chamois skins, dusters, soap, brooms, brushes, lantern, medicines, sponges, matches, axle grease, etc.

The value of the foregoing property is \$150,000.00.

General Running Orders.

The Companies will respond to alarms of fires given from boxes as indicated on running card.

The Chief, First Assistant and the Protective Company will answer alarms from all boxes.

Members of companies who do not respond to first alarms, will report to their respective houses and await orders. Should a second or third alarm be not received within thirty minutes, the officer in command will have the roll called and dismiss the men. If the recall is sounded before the expiration of the time stipulated above the officer will dismiss the men. After a second alarm has been given the members of companies not responding to it will remain on duty at their respective houses until the recall is sounded. If there are no companies remaining in quarters that respond to alarm given from another box, after the first alarm has been given and before the recall is struck, one engine, one truck, chemical and two hose companies, remaining in quarters nearest to the box giving the alarm, will respond immediately. This article applies to all alarms, except in case of telephone or still alarms. The engine will not respond. After a second alarm is given all companies remaining in quarters will respond immediately to any alarm given before the recall is sounded.

In cases where two alarms may have been given from different boxes, the second box having struck before the recall from the first box, the recall from the first box will be two blows, the recall from the second box will be one blow.

The all out or recall signals will be given by striking two single blows with an interval of ten seconds between the blows.

Second alarms will be given by striking two blows, followed immediately by one round of the box giving the first alarm.

Third or general alarm will be giving by striking three blows, followed immediately by one round of the box, when all companies will respond immediately.

Second or third alarms will be given only by special orders of the Chief or acting Chief.

Two strokes repeated three times at 1-4 before 8 A. M., and 1-4 past 1 P. M., in summer, and 1-4 before 8 A. M., and 1-4 before 1 and at 6.30 P. M., in the winter, denotes no session of schools.

The bells will be struck once at 1 and 8.30 P. M.

Instructions to Key-Holders.

Alarms are to be given from the box nearest the location of the fire.

Upon the discovery or positive information of a fire, you will unlock the box, pull down the slide or hook once only, and let go.

If you hear no sound from the bell, pull again; if you fail the second time, go to the next nearest box and do the same. Also, be particular to remain at the box until the arrival of an Engineer, who will release the key.

Each box contains a small bell, which if heard before you pull the hook, indicates that the alarm has been given from another box. In such a case do not pull the box until you are sure the alarm has been completed.

Never signal for a fire seen at a distance. Never touch the hook except to give an alarm of fire. Give an alarm for no cause than an actual fire.

Second alarm for the same fire will be given only by one of the Engineers.

Never let the key out of your possession, unless called for by the Chief Engineer. If you change your place of business or residence where the key is kept, return it to the same officer.

Keys to the boxes are in the possession of responsible parties in the vicinity of the boxes; also in the hands of the police.

Citizens are requested to inform themselves where the keys of the signal boxes are kept. A large number of boxes have been furnished with a key in an iron box with glass front, which in a few cases had to be taken out on account of the boys breaking the glass.

COMPANIES RESPONDING TO TELEPHONE ALARMS.

DISTRICT No. 1—North of Hale's Brook, west of B. & L. R. R. to and including Westford Street, to city line. Hose 2 and 9, Truck 2, and Chemical C.

DISTRICT No. 2—North of Westford Street, west of B. & L. R. R. to Pawtucket Canal, to School Street, to but including Sargent, Wannalancit to Pawtucket Street, except Pawtucket Street and Middlesex Village. Hose 2 and 8, Truck 2, and Chemical C.

DISTRICT No. 3—Pawtucket Street from Wannalancit, Middlesex Village to City line. Hose 2 and 5, Truck 2, and Chemical C.

DISTRICT No. 4—Wannalancit to Sargent, to Varney to Fletcher, to Merrimack River. Hose 5 and 6, Truck 2, and Chemical C.

DISTRICT No. 5—North of Pawtucket Canal, Dutton Street to Broadway, to Suffolk Street, to Merrimack River, to but not including Fletcher, Varney and School Streets to Pawtucket Canal. Hose 6 and 8, Truck 3, and Chemical B.

DISTRICT No. 6—Dutton Street from Merrimack River to but not including Broadway, and Suffolk Street to Merrimack River. Hose 3 and 8, Truck 3, and Chemical B.

DISTRICT No. 7—Centralville. Hose 3 and 10, Truck 4, and Chemical B.

DISTRICT No. 8—East of Dutton Street from Merrimack River to Pawtucket Canal, to Concord River, to Merrimack River. Hose 3 and 10, Truck 3, and Chemical B.

DISTRICT No. 9—Belvidere north of Andover Street. Hose 3 and 4, Truck 4, and Chemical B.

DISTRICT No. 10—Belvidere south of but not including Andover Street. Hose 4 and 7, Truck 1, and Chemical B.

DISTRICT No. 11—South of Pawtucket Canal, Concord River to Rogers, Wamesit, Elm and South Streets, to Pawtucket Canal. Hose 3 and 7, Truck 3, and Chemical B.

DISTRICT No. 12—West of, but not including, South Street, from Pawtucket Canal to Highland Street, to B. & L. R. R., to Pawtucket Canal. Hose 2 and 7, Truck 2, and Chemical C.

DISTRICT No. 13—East of B. & L. R. R., Robinson to Congress, to Gorham, to Central, to Crosby, to Newhall, to Watson, to Concord River, to, but not including, Rogers, Wamesit, Elm and Highland Streets, to B. & L. R. R. Hose 7 and 11, Truck 1 and Chemical C.

DISTRICT No. 14—East of B. & L. R. R., south of, but not including, Robinson, Congress, Gorham, Central, Crosby, Newhall and Watson Streets, to Concord River, to Lawrence Street, to City line. Hose 1 and 11, Truck 1, and Chemical C.

DISTRICT No. 15—West of B. & L. R. R., south of Hale's Brook, to city line. Hose 1 and 9, Truck 2, and Chemical C.

The Protective Company will respond to all alarms.

ANNUAL REPORT,
OF THE
SUPERINTENDENT
OF
STREET LIGHTS
OF THE
CITY OF LOWELL, MASS.
FOR THE YEAR 1892.



LOWELL, MASS.,
DAILY NEWS JOB PRINT, HILDRETH BUILDING.
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, Jan. 17, 1893.

Received and ordered on file.

MICHAEL J. DOWD, City Clerk.

REPORT.

LOWELL, January 1, 1893.

To the Mayor and Board of Aldermen :

GENTLEMEN:—Herein is submitted the Annual Report of the Superintendent of Street Lights, for the year ending December 31, 1892. The working force under the direction of the Superintendent (Chief of Fire Department), consists of eleven men, one of whom acts as foreman. They have in addition to their regular duties of lighting and cleaning the gas lamps, set and fitted up 23 gas and 26 gasoline posts, the past year.

There are at present 821 gas lights; in addition there are 39 lights owned and maintained by the different corporations, the city paying for the gas consumed. These lights are lighted and put out according to the time designated by a card issued by the Superintendent monthly. These lights average about seven hours a night and burn 4, 6, 12 and 18 feet per hour, according to location. There have been 23 new gas lights added and 114 discontinued on account of electric lights during the past year.

The locations of the gas lights added the past year are as follows: Second Avenue, Wilder and Meadowcroft Streets 3 each, Third Avenue, South Whipple and White Streets 2 each, Wentworth Avenue, Andover, Centre, Laurel, May, June, Eighteenth and Hovey Streets 1 each.

The Globe Gas Light Company, of Boston, agree by contract to furnish all lanterns and glass, and keep and maintain their lights in good order, with a light equal to a five-foot burner, at six cents a light per night, they to have no less than twenty-five nights per month, and to burn until one o'clock. These lights, as a rule, are located on streets where there are no gas mains, and are replaced with gas as soon as gas mains are laid.

There are 460 gasoline lights at present, 26 new ones having been added and 22 replaced by gas lights the past year. The new ones are located as follows: Billings street 4, Humphrey, Forrest and Corbett streets 3 each, Varnum Avenue and Congress street 2 each, rear of Congress, rear of Church, Livingston, Newhall, Marston, Merrill, Tenth, Princeton and First streets 1 each.

The number of electric lights at the beginning of the year was 217; 57 more were added during the past year. There are at present 274 lights. The city pays the Electric Light Company forty

cents per light for two hundred lights; all over that number thirty-seven and one half cents per light, all and every night in the year. The lights put in the past year are located as follows; Princeton and Edson streets, Westford and Edson streets, Western Avenue, opposite Howe Lumber Company, Jefferson street bridge, Mammoth Road and Second Avenue, Mammoth Road opposite P. Teague's, Mammoth Road opposite Chase Avenue, Bridge and Nineteenth streets, Bridge and Boynton streets, Bridge above Boynton street, Rogers street two, Rogers and Fairmount streets, Rogers and Nesmith streets, Sherman and Nesmith streets, High and Porter streets, Nesmith street opposite Dr. Irish's, residence, Moody and James streets, Westford and Foster streets, Stevens and Princeton streets, Stevens and Pine streets, Oak street and Fort Hill Avenue, Moore street, Mason and Powell streets, Stackpole and Livermore streets, Stackpole at Bond street, Sanborn and Burnham streets, Myrtle and Third streets, Read and Sixth streets, Read and First streets, Highland street two, Davidson and Wall streets, Concord and Pond streets, Lagrange and Adams streets, Lagrange and Suffolk streets, Concord street, Grove and Coral streets, Middle street, Lincoln street two, Lincoln street at tannery, Tyler street opposite Nos. 20 and 39

Bridge and Sixth streets, Bridge street at No. 236, Lawrence street at Engine House, Lawrence street at bend, Lawrence street, Lincoln and Gorham streets, Lincoln and Main streets, Lincoln and West streets, Liberty and Osgood streets, Prescott street, Beacon and Sixth streets, Sixth and Fremont streets.

The whole number of lights up to date are as follows:

Electric	274
Gas.....	821
Gasoline.....	460
	<hr/>
	1555

The following statement will show the Receipts and Expenditures:

RECEIPTS.

Appropriation.....	\$55,000 00	
Received from other sources.....	30 40	
Transfer.....	8,000 00	
	<hr/>	\$63,030 40
		<hr/>

EXPENDITURES.

Pay roll.....	\$7,271 25	
Electric Light Company.		
Streets.....	\$34,752 73	
Huntington Hall.....	392 00	
City Government Build'g	209 13	
	<hr/>	35,353 86
Gas Light Company.		
Streets.....	\$8,179 98	
Huntington and Jackson Halls.....	551 65	
	<hr/>	
<i>Amounts Carried forward....</i>	\$8,731 63	\$42,625 11

<i>Amounts brought forward</i>	\$8,731 63	\$42,625 11	
City Government Build'g	432 35		
Armories.....	25 08		
Ward Rooms....	67 21		
Dep't. Headquarters.....	1 65		
Milk Inspector.....	22 76		
		9,280 68	
Globe Gas Light Company.....		8,619 34	
Hay, Grain, Waste, Glass, Paint, Lanterns, Frames, Water Works, Posts, etc....		1,199 93	
Total expenditure for the year 1892..		\$61,725 06	
Balance undrawn, Dec. 31, 1892.....		1,305 34	
		<u>\$63,030 40</u>	

Schedule of property belonging to the city, under the charge of the Superintendent of Street Lights, Jan. 1, 1893:

Eight hundred and twenty-one street lights and 305 lamp posts piped and capped ready for use, decapitated on account of electric lights, 460 wooden posts and frames used for gasoline purposes, 1 horse, 2 wagons, 2 robes, 2 blankets, 2 sleighs, 3 harnesses, 1 collar and hames, 88 lanterns, 11 ladders, 3 harnesses, 13 frames, 1 air pump, 1 saw, 2 oil cans, 35 globes, 1 sixty-gallon oil tank, 1 match box, 1 stove, 1 boiler connection, 1 Colcord desk, table, spittoon, coal hod, 7 shovels, 4 picks, 3 bars, 2 tamps, 3 monkey wrenches, 1 box of glass, 40 feet of 3-4 inch hose, 1, 1-8, 1-2, and 3-4 inch dies, 3 pipe cutters and necessary pipe fittings, 220

feet 3-4 inch pipe, 2 pairs 3-4 inch pipe tongs, 1 diamond glass cutter, ton of coal, 2 lanterns, 1 spirit level, 12 torches, bench, vice, 20 gallons of alcohol, 2 forks, 5 wooden posts, and 1 1-2 dozen pipe fittings, etc.

The value of the above property is about \$25,000.00.

Respectfully submitted,

EDWARD S. HOSMER,

Superintendent.

ANNUAL REPORT
OF THE
SUPERINTENDENT OF PUBLIC BUILDINGS

OF THE
CITY OF LOWELL,

FOR THE YEAR 1892.



LOWELL, MASS.:
CAMPBELL & HANSCOM, PRINTERS.
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, March 21, 1893.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, March 28, 1893.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk*.

REPORT.

OFFICE OF SUPERINTENDENT OF PUBLIC BUILDINGS }
LOWELL, MASS., FEB. 28, 1893. }

*To His Honor the Mayor, and Gentlemen of the City
Council of the City of Lowell:*

GENTLEMEN : —

In compliance with section two, chapter five, of the Ordinances of the City of Lowell, I respectfully submit the report of the departments under my charge for the year ending December 31, 1892.

The work of this department for the last year has been very extensive, there being many new buildings, which, with the repairs of the old ones, have required a large expenditure of money.

SCHOOL HOUSES.

NEW HIGH SCHOOL.

The foundation of this building was put in last year, but in the spring it was found necessary to take down part of it in order to lay larger bedstones, as it was found that the soil was too soft in some places. This caused a delay as well as an extra expense. The first thing the committee of this year had to do was to settle

the question of heating and ventilation of the building; and, in order to find out which gave the best satisfaction and was most economical, the committee inspected the different systems in operation, both in and out of the state, and after a thorough investigation your committee awarded the contract for the Fuller & Warren system of heating, ventilation, and sanitary closets, as that system came up to the requirements of the law, and in other cities as in Lowell, where we have the fan, blower, direct, indirect, and furnace systems, the Fuller & Warren system gives as good satisfaction as any, and uses from 30% to 50% less fuel than any other system.

This building is built of buff brick with terra cotta trimmings, and is to have an iron roof. There are to be twenty rooms and a large assembly hall, and when completed we feel we shall have as fine a school building as there is in the state, if not in the country.

NEW MOODY SCHOOL.

This is a twelve room building with an assembly hall, and is built of brick with granite trimmings. This building was built to take the place of the old Moody school. The contractors are now finishing the building and it will be ready for occupancy at the April term. This building is also heated and ventilated by the Fuller & Warren system, and is also another fine building and when completed will cost, with the land, between \$75,000.00 and \$80,000.00.

In August of last year there was a loan passed to borrow \$70,000.00 to build two new school houses, one on Chelmsford Street, to cost \$60,000.00, and one at the Oaklands, to cost \$10,000.00,

CHELMSFORD STREET SCHOOL.

This building is to be an eight room grammar school, to be built of brick with granite trimmings, and to be heated and ventilated by the Fuller & Warren system. The foundation of this building is all in, and the contracts have been let for the other work, and the contractors will begin to lay brick in April.

OAKLANDS SCHOOL.

The building at the Oaklands will be a four room primary school to be built of wood. The contractors are now putting on the roof, and it will be ready for occupancy at the September term.

REPAIRS ON OLD SCHOOL BUILDINGS.

There has been a large amount of repairing done to old buildings the past year, the largest expenditure on any one of the old buildings being at the Varnum school, which has had new floors in eight rooms, new black boards, new sheathing, and has been whitened throughout. The total amount expended on this building for the year was \$2,644.41.

The Butler school has been varnished throughout.

The Pawtucketville school has had the same.

The Fayette Street school has been whitened.

At the Green school there have been new ceilings put on four rooms, and all the rooms have been colored.

The West Sixth Street school has had the four rooms whitened.

There have been four rooms whitened at the River Street school also.

At the Tenth Street school the stoves have been all removed, a new boiler put in, and the building piped for steam, thus making a great improvement over the old style of heating by stoves.

The Ames Street school has also had a new boiler and fitted for steam; this is another four room school which had always been heated by stoves.

The Eliot school has had a new boiler, as the old one was too small to heat the building satisfactorily.

The Pond Street school has been whitened throughout, and new floors laid in one room and the hall.

The High Street school has been painted outside and a new piazza built.

The Plain Street school has been painted outside.

The Powell Street school has been painted outside and whitened inside.

PUBLIC BUILDINGS DEPARTMENT.

In June the City Council passed a loan of \$35,000.00 for the building of a new hospital, and an addition to insane department, and such repairs as were needed at the City Farm. The money was placed to the credit of Appropriation for Paupers, but the work to be done under the supervision of the Committee on Lands and Buildings. There has been built out of the appropriation a hospital building, 38 ft. x 125 ft., four stories high, built of brick with slated roof, also an addition to the insane department, 60 ft. 3 in. long by 34 ft. 6 in. wide. This is of brick with granite trimmings to correspond with the old building; it is four stories high with slated roof.

There has also been built a new store house, 70 ft. x 44 ft., with three floors; a new boiler house of

brick, 48 ft. 5 in. x 71 ft., one story high; also a new chimney for the boiler house, 95 ft. high; there has been put in the boiler house one new boiler of 80-horse power, and one old boiler repaired.

At the water works we have put in new floors at the pumping station and engine room, the same being paid for from their own appropriation.

NEW ENGINE HOUSES.

The Pawtucketville engine house has been completed the last year. It is a brick building with granite trimmings, 65 ft. long by 34 feet wide, with a hose tower 85 feet high.

LAWRENCE STREET ENGINE HOUSE.

This is another new house, which has been finished this year; this house cost much more than the Pawtucketville one, although the appropriation was the same; this was caused from the extra expense of putting in the foundation, as the lot on which the house was built was all ledge, which stood several feet above the street. The contract for the foundation was \$1,849.00, and the extras for ledge excavation and putting in a bank wall, \$3,507.61; thus making the extras nearly double the amount of the original contract, and making the total cost for putting in the foundation \$5,356.61.

This is also a brick building with granite trimmings, and is one of the finest engine houses in the city.

REPAIRS ON PUBLIC BUILDINGS. — CITY YARD.

The City Council voting that the city water its own streets, it became necessary to prepare quarters for the

street sprinklers, and we have built a large shed for that purpose at the city yard, at a cost of \$700.00. New roofs have also been put on to the other sheds.

At the police station, the guard room has been colored, and the wood work varnished.

At the city hall there has been only the necessary repairs to keep the building in proper condition, as the city government will probably occupy the new city hall before the end of the year.

At Hope engine house No. 1, there has been a new sewer put in, as the old one was not deep or large enough.

Steamer No. 2 house has had the cellar ventilated. This has made a great improvement, as it was found impossible to keep the floor timbers from decaying.

The High Street engine house has been painted outside.

The Palmer Street engine house has had the manure pit ventilated as there was no provision for the same made when the building was put up.

Hose No. 5 house of Centralville has had the whole house ventilated.

Hose No. 6 house has been painted outside.

At Hose No. 7 house, on Fletcher Street, the iron stairway has been removed and wooden stairs put in their place. There have also been four new stalls put in, new doors for all the stalls, and the building has been painted throughout.

At Hose No. 8 house there have been new floors put in.

Hose No. 9 house has had new outside doors. This is a new house, but when it was built there were old

doors put in, and after two years' service these have been found unfit for use.

I submit herewith a table of receipts and expenditures on the old and new buildings under my charge :

SCHOOL HOUSES (ORDINARY).

Appropriation.....	\$25,000.00	
Transfer from reserve fund.....	8,000.00	
Sale of lot on Rock Street.....	3,892.50	
Janitors' pay rolls.....		\$18,731.60
Repairs at Varnum school.....		2,644.41
Repairs on other old buildings.....		12,521.00
Expenses not chargeable to any school		2,300.34
Balance January 1, 1893.....		695.15
	<hr/>	<hr/>
	\$36,892.50	\$36,892.50
	<hr/>	<hr/>

NEW HIGH SCHOOL BUILDING.

Balance January 1, 1892.....	\$111,132.35	
Loan	35,000.00	
Receipts.....	6.99	
Carpenter work, part payment.....		\$11,051.07
Brick and terra cotta, part payment..		59,822.66
Iron work, part payment.....		1,900.00
Copper work, part payment.....		2,000.00
Plans and specifications, part payment		4,312.34
Interior walls and piers.....		3,074.33
Taking down and relaying walls.....		5,225.10
Sundries		77.02
Balance January 1, 1893.....		58,676.82
	<hr/>	<hr/>
	\$146,139.34	\$146,139.34
	<hr/>	<hr/>

NEW MOODY SCHOOL.

Balance January 1, 1892.....	\$37,865.28	
Loan	20,000.00	
Brick work.....		\$18,203.00
Iron work.....		765.59
Slating.....		1,997.00
Gas piping.....		327.00
Carpenter work, part payment.....		13,244.62
Copper work, part payment.....		1,700.00
Plastering, part payment.....		2,394.00
Heating and ventilation, part payment		3,525.34
Furniture, part payment.....		1,584.36
Slate blackboards, part payment.....		435.26
Plans and specifications, part payment		1,804.12
Bells and speaking tubes		119.75
Painting and sundries.....		1,826.21
Balance January 1, 1893.....		9,939.03
	<u>\$57,865.28</u>	<u>\$57,865.28</u>

CHELMSFORD STREET SCHOOL.

Appropriation	\$60,000.00	
Receipts.....	.37	
Appropriation roads and bridges, for land		\$4,426.00
Foundation, part payment.....		2,000.00
Plans and specifications, part payment		500.00
Laying out cellar.....		30.00
Stock and labor on batters.....		30.06
Water works department, for use of water		3.72
Balance January 1, 1893.....		\$53,010.59
	<u>\$60,000.37</u>	<u>\$60,000.37</u>

OAKLANDS SCHOOL.

Appropriation.....	\$10,000.00	
Paid for land.....		\$952.30
Part payment for foundation.....		800.00
Part payment for architect.....		100.00
Paid for service of engineers.....		23.00
Stock and labor, setting batters.....		25.62
Balance January 1, 1893.....		8,099.08
	<u>\$10,000.00</u>	<u>\$10,000.00</u>

PAWTUCKETVILLE ENGINE HOUSE.

Paid for land in 1889.....	\$854.56
Expended on building in 1891.....	6,843.39
Expended on building in 1892.....	6,535.96
Total cost of building with land.....	<u>\$14,233.91</u>

LAWRENCE STREET ENGINE HOUSE.

Paid for land in 1889.....	\$2,809.87
Expended on building in 1891.....	3,025.94
Expended on building in 1892.....	19,785.87
Total cost of building with land.....	<u>\$25,621.68</u>

PUBLIC BUILDINGS (ORDINARY).

Balance January 1, 1892.....	\$716.92
Appropriation.....	10,000.00
Transfer from reserve fund.....	5,000.00
Superintendent's salary.....	\$1,600.00
Office and committee expenses.....	1,430.00
Fourth of July celebration.....	186.92
Board of horses.....	680.00
Repair of teams.....	392.08

Expended on new shop.....	713.00	
Stock for shop.....	1,646.46	
Repair on buildings.....	6,573.05	
Bills receivable.....	428.96	
Balance January 1, 1893.....	2,066.45	
	<u>\$15,716.92</u>	<u>\$15,716.92</u>

Respectfully submitted,

RICHARD BRAY,

Superintendent Public Buildings.

CITY OF LOWELL.

ANNUAL REPORT

OF THE

CHIEF OF POLICE,

TO THE

CITY COUNCIL

FOR THE YEAR ENDING NOVEMBER 30, 1892.



BUTTERFIELD PRINTING & BINDING COMPANY,

28 MIDDLE ST., LOWELL, MASS.

1892.

YEARLY REPORT
— OF —
CHIEF OF POLICE
FOR 1892.

IN COMMON COUNCIL, December 13, 1892.

Read and ordered on file. Sent up for concurrence,

DAVID CHASE, *Clerk*.

IN BOARD OF ALDERMEN, December 14, 1892.

Read and ordered on file in concurrence,

MICHAEL J. DOWD, *City Clerk*.

ANNUAL REPORT.

OFFICE OF CHIEF OF POLICE, }
December 1, 1892. }

*To the Honorable the Mayor and City Council of the City
of Lowell :*

GENTLEMEN—I have the honor to submit the annual report for the Police Department for the year ending November 30, 1892, containing Statistics showing what has been done during the past year. I have also presented such suggestions and recommendations as seemed to me pertinent and calculated to improve the efficiency of the department.

The following is a statement of the different offenses for which arrests were made, and the number of arrests for each offense :

Whole number admitted for lodging.....	<u>5015</u>
Males	4973
Females	42
Americans	2751
Foreigners	2264
Minors	127
Non-Residents	5000
Colored.....	6
Whole number arrested.....	<u>6153</u>
Males	5050
Females	1103
Americans	2381

Foreigners	3772
Minors	528
Non-Residents	1101
Colored	17

CAUSES OF ARRESTS.

Adultery	17
Assault and battery	238
Assault, felonious	5
Assault on officer	16
Arson	3
Bastardy	17
Breaking and entering	36
Breaking glass	19
Capias for default	19
Capias from superior court	6
Cruelty to animals	15
Concealed weapons, carrying	2
Drunkenness, simple	4459
Drunkard, common	150
Disturbing the peace	48
Delirium tremens	30
Embezzlement	23
Escaped prisoner	8
Evading car fare	3
Food law, violation of	2
Fornication	31
False pretenses, obtaining money by	8
False answers to stable keeper	3
Horse, unlawfully taking and driving	9
Indecent exposure of person	3
Insane	28
Larceny	249
Larceny from the person	10
Larceny from a building	6
Lewd and Lascivious	2
Liquor, unlawfully keeping	104
Liquor nuisance	51
Liquor, unlawful sale	25

Liquor, unlawful sale to minor.....	3
Liquor seizures	114
Lord's Day, violation of.....	6
Lord's Day, playing game on.....	20
Mortgaged property, conveying.....	3
Mortgaged property, concealing.....	5
Malicious mischief	17
Murder	3
Manslaughter.....	2
Peddling without license.....	1
Rape	2
Rape, attempt	1
Receiving stolen goods	3
Stubborn children.....	32
Suspicious persons.....	93
Safe keeping.....	3
Threatening language.....	20
Trespass, willful	7
Truancy	38
Vagrancy	18
Wandering about streets	41
Bathing unlawfully.....	3
Dogs unlicensed.....	2
Family, neglect of.....	51
Health law, violating	13
Milk law, violating	8
Obstructing street.....	8
Obstructing an officer.....	6
Fast driving.....	4
Unlawful sale of poison.....	1
Keeping inn without license.....	3
Keeping pool table without license.....	1
Ringing false alarm of fire.....	2
Being present at dog fight.....	7
Keeping open shop on Lord's Day.....	2
Profanity	26
Fishing unlawfully.....	2
Surrendered by bondsmen.....	2
Common nuisance.....	3

Contempt of court.....	1
Removing baggage.....	13
Distributing hand bills.....	1
Disturbing religious meeting.....	1
Dangerous and disorderly persons.....	1
Discharging firearms.....	11
Discharging firecrackers.....	13
Fire escape law, violating.....	2
Attempt escape from workhouse.....	1
Exciting dog to bite.....	1
Poisoning cattle.....	1
Committing unnatural act.....	1

PROSECUTIONS.

Adultery.....	17
Assault and battery.....	228
Assault, felonious.....	4
Assault on officer.....	16
Arson.....	2
Bastardy.....	17
Breaking and entering.....	35
Breaking glass.....	16
Capias for default.....	19
Cruelty to animals.....	15
Concealed weapons, carrying.....	2
Drunkenness, simple.....	1205
Drunkard, common.....	150
Disturbing the peace.....	33
Embezzlement.....	22
Escaped prisoner.....	5
Evading car fare.....	2
Food law, violation of.....	2
Fornication.....	29
False pretenses, obtaining money by.....	8
False answers to stable keeper.....	2
Horse, unlawfully taking and driving.....	9
Indecent exposure of person.....	3
Larceny.....	229
Larceny from the person.....	10

Larceny from a building.....	6
Lewd and lascivious.....	2
Liquor, unlawfully keeping.....	104
Liquor nuisance.....	51
Liquor, unlawful sale.....	25
Liquor, unlawful sale to minor.....	3
Lord's Day, violation of.....	6
Lord's Day, playing game on.....	20
Mortgaged property, conveying.....	3
Mortgaged property, concealing.....	5
Malicious mischief.....	15
Murder.....	3
Manslaughter.....	2
Peddling without license.....	1
Rape.....	1
Rape, attempt.....	1
Receiving stolen goods.....	3
Stubborn children.....	23
Threatening language.....	17
Trespass, willful.....	6
Truancy.....	38
Vagrancy.....	18
Wandering about streets.....	41
Bathing unlawfully.....	3
Dogs unlicensed.....	2
Family, neglect of.....	51
Health law, violating.....	13
Milk law, violating.....	8
Obstructing street.....	4
Obstructing an officer.....	6
Fast driving.....	4
Unlawful sale of poison.....	1
Keeping inn without license.....	3
Keeping pool table without license.....	1
Ringing false alarm of fire.....	2
Being present at dog fight.....	7
Keeping open shop on Lord's Day.....	2
Profanity.....	23
Fishing unlawfully.....	2

Common nuisance.....	3
Removing baggage	9
Disturbing religious meeting.....	1
Dangerous and disorderly persons.....	1
Discharging firearms	11
Discharging fire crackers.....	9
Fire escape law, violating	2
Attempt escape from workhouse.....	1
Exciting dog to bite.....	1
Poisoning cattle.....	1
Committing unnatural act.....	1
Number city ordinance cases for the following offenses..	<u>121</u>
Truancy	38
Wandering about street.....	41
Fast driving.....	4
Obstructing street.....	8
Unlawfully bathing.....	3
Distributing hand bills.....	1
Discharging firecrackers	13
Discharging firearms.....	11
Digging up street without permit.....	2
Amount of money taken from and returned to persons arrested.....	<u>\$6524 68</u>
Number found not guilty by court for following offenses.	<u>101</u>
Keeping liquor	14
Liquor nuisance	3
Liquor, illegal sale of.....	1
Family, neglect of.....	6
Larceny	10
Vagrant	1
Threatening	5
Assault and battery.....	30
Breaking and entering.....	3
Keeping inn without license.....	1
Embezzlement	4
Present at dog fight.....	3

Fishing unlawfully.....	2
Unlawfully driving horse.....	3
Mortgaged property, concealing.....	2
Lord's Day, violating.....	1
Digging up the street without permit.....	2
Health law, violating.....	3
False pretense.....	1
Dogs unlicensed.....	1
Attempting escape from workhouse.....	1
Breaking glass.....	1
Exciting dog to bite.....	1
Malicious mischief.....	1
Bastardy.....	1

MISCELLANEOUS REPORTS.

Defective streets and sidewalks.....	484
Defective lamps and burners.....	2666
Obstructions removed from streets.....	190
Assisted home drunk.....	256
Disturbances quelled without arrest.....	173
Lost children returned to parents.....	47
Stray teams put up.....	54
Store doors found open.....	459
Wagon calls.....	4806
Arrests by wagon.....	5838
Total number of prosecutions.....	<u>2636</u>

There are at present seventy-eight officers in the regular force and eight officers in the reserve force, leaving three vacancies in the regular and two vacancies in the reserve force.

ROSTER OF THE FORCE.

CHIEF OF POLICE.

CHARLES HOWARD.

DEPUTIES.

JAMES A. MCQUADE.

GEORGE R. DAVIS.

SERGEANTS.

JAMES DUNLAVY.	WILLIAM R. KEW.
JAMES E. WEBSTER.	

INSPECTORS.

DAVID J. DONALDSON.	FRANK GOODWIN.
DANIEL M. HAYES.	CHARLES LAFLAMME.
MICHAEL E. McDONALD.	REDMOND WELCH.

WARRANT AND COURT OFFICERS.

PETER CAWLEY.	JACOB G. FAVOR.
ISAAC L. LIBBY.	

KEEPERS.

JOHN R. MACKENZIE.	JAMES McLAUGHLIN.
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DAY PATROL.

ELOI N. BREAUT.	ENOCH N. GRINNELL.
JAMES BROSNAN.	DANIEL W. LANE.
CORNELIUS E. COLLINS.	ALBERT E. LIBBY.
JOHN B. CROWLEY.	ALONZO J. PAGE.
HENRY FARRINGTON.	NAPOLEON PROVENCHER.
WILLIAM H. GRADY.	CHESTER E. RYDER.
CHARLES GREGG.	THOMAS J. SANBORN.
JOHN A. WALSH.	

NIGHT PATROL.

THOMAS E. ALLEN.	ALFRED M. HOLMAN.
JOSIAH S. BLOOD.	CORNELIUS HOWARD.
JAMES BOYLE.	JOHN D. HUBIN.
PATRICK H. BRADY.	LINSEY E. INGALLS.
JOHN BUCHANAN.	WILLIAM B. JONES.
WILLIAM G. BUMPS.	JOHN L. LEIGHTON.
HORACE W. CLEMENT.	MICHAEL J. LENNON.
MARTIN CONNORS.	GEO. W. MARSHALL.
PETER T. CORCORAN.	CORMACK McINTEE.
JOHN CREAHIN.	JOHN H. McKAY.
JOHN J. CROWLEY.	JAMES McNABB.
JOHN S. DENNETT.	WILLIAM B. MOFFATT.
JAMES E. DOW.	FRANCIS E. MOORE.
HUGH DOWNEY.	WILLIAM H. O'BRIEN.

JOHN M. DUNFEY.	JOHN O'CONNELL.
PATRICK FITZPATRICK.	PETER F. O'DONNELL.
EDWARD FOX.	GEO. B. PALMER.
FRANK FOX.	HENRY F. QUINN.
JOHN F. GALLIVAN.	JAMES RILEY.
WILLIS L. GARDNER.	ROBERT W. STOWELL.
DAVID H. GOODHUE.	HERMON N. TILTON.
JOHN HICKSON.	JOHN T. WHITTAKER.
JAMES E. HOLLAND.	FRANK H. WHITNEY.

RESERVE FORCE,

DENNIS J. BREEN.	JOHN F. HURLEY.
PETER CURRAN.	JAMES MARKHAM.
ALEXANDER DUNCAN.	JOHN J. MULRY.
JOHN W. FOX.	MICHAEL O'CONNELL.

ELECTRICIAN.

MICHAEL J. BURNS.

DRIVERS OF PATROL WAGON.

JAMES H. HOWARD.	JOHN W. TILTON.
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HOSTLER.

JAMES W. KILBURN.

POLICE MATRON.

MARGARET WALLACE.

Changes in the department from December 1, 1891, to November 30, 1892.

APPOINTMENTS.

Dec. 22, DENNIS J. BREEN.	MICHAEL J. KEEFE.
PETER CURRAN.	JAMES MARKHAM.
JOHN F. HURLEY.	JOHN J. MULRY.
MICHAEL O'CONNELL.	

PROMOTIONS.

April 5, DAVID G. DONALDSON, MICHAEL E. McDONALD, REDMOND WELCH, from Patrolmen to Inspectors.

Dec. 22, JOHN BUCHANAN, JAMES E. DOW, F. FOX, JOHN L. LEIGHTON, FRANCIS E. MOORE, ROBERT W. STOWELL, from Reserve to Regular Force.

RESIGNATIONS.

EDGAR L. BILLS.

JOHN C. FURLONG.

THOMAS INGALLS.

DISCHARGES.

CHARLES J. HURAN.

MICHAEL J. KEEFE.

FINANCIAL STATEMENT.

Balance undrawn Dec. 1, 1891.....	\$1,577 56
Receipts and Transfers Dec. 1, 1891, to Dec. 1, 1892....	34,046 65
Appropriation, 1892.....	70,000 00
<hr/>	
Total Cr	\$105,624 21
Expenditures Dec. 1, 1891, to Dec. 1, 1892.....	98,977 61
<hr/>	
Balance undrawn Dec. 1, 1892.....	\$6,646 60

DISCIPLINE.

The discipline of the department has been good, with few exceptions. Twelve officers have been suspended for neglect of duty and violations of the rules of the department. Ten have been brought before the Committee on Police for trial on charges preferred against them. There have been ten hearings before the Committee, and each defendant was given an opportunity to be heard personally and to summon such witnesses as he chose in his own behalf. As a result of these hearings and the findings of the Committee, one patrolman was allowed to resign while under suspension; two patrolmen were discharged from the force; three patrolmen were exonerated, the charge not being sustained; one patrolman was suspended for six months; one patrolman was suspended for six weeks; others for a short time.

MORALE OF THE CITY.

There has been a slight increase in arrests over last year, but the city as a whole has been remarkable for its good order and freedom from what is considered the heavier class of crime. This has been particularly noticeable on numerous occasions when there were processions and other attractions which called out large

numbers of our citizens, at which times no riotous or boisterous proceedings called for police interference. There have been more gatherings of this nature during the past year than in any preceding year in the city's history. Of all offenses for which arrests are made in this section none compare in point of interest with that of drunkenness, principally because there are no crimes of a startling nature committed here, and also because license or no license occupies so large a share of the public attention.

The arrests for drunkenness in all its stages during the year have been 4609, against 4035 last year. When the total number of arrests was but 7.96 less than this, it may be of interest to know that on holidays, when the saloons are allowed by law to remain open, the greatest addition to the number are caused by drunkenness. For instance, on July 4th, when the saloons were allowed to keep open, the total number of arrests was 55, while on Labor Day the total number was 13; election day the total number was 6, and Thanksgiving day the total number was 9; the last three days the saloons were closed. I think, for the benefit of the drinking man's family, that it would be wise to enact a law that would close the saloons every day when he is allowed to be idle and subject to the temptations of the same.

DETECTIVE DEPARTMENT.

The work of this department has been conducted by Inspectors Hayes and Laflamme with that skill and energy for which they have become noted, working night as well as day when it has been required. Neither time or distance has prevented the pursuit of criminals, several having been overtaken and brought back from other cities and states and punished for their offenses. They have rendered valuable services, and I am convinced that this department is in the hands of good officers.

LIQUOR PROSECUTIONS.

The duty of properly enforcing the various provisions of law regulating the keeping and sale of intoxicating liquor is one of considerable difficulty. Inspectors Donaldson, Goodwin and Welch, who have been assigned to this duty, have served 266 search warrants, and made 114 seizures, netting 721 gallons of liquor. There have been 139 prosecutions made in the Police court. The fines in these cases amounted to \$13,390. In the above statistics no account has

been taken of the prosecutions made by persons outside of the department ; the liquors seized have been forfeited and delivered to the Chief of the Massachusetts District Police and his receipt taken therefor.

In the suppression of illegal liquor selling the department has been as active as the nature of the work and the opportunity for procuring evidence would allow. Raids have been made on illegal dealers whenever evidence could be obtained sufficient to justify an application for a search warrant. The greater part of illegal selling is done on Sundays and holidays, when the licensed places are closed. That this has been reduced nearly to the minimum, considering the difficulties, will be admitted by most people acquainted with the facts. That illegal selling can be wiped out entirely is not to be expected, considering the fact that we are not able to procure evidence of sales. The law permits the possession of an unlimited quantity of intoxicating liquor if it is not kept with the intention of selling it ; and it devolves on the prosecution to show by evidence that liquor seized was kept for the purpose of sale. Illegal dealers only sell to persons who are known to be friendly to them, or who are vouched for by persons in whom they have confidence, careful watch being kept to prevent the police from surprising them in their illicit business ; consequently we are practically confined to evidence obtained by seizing liquor on the premises, substantiated by other evidence that the place is one of common resort. The evidence of common resort should be shown by the patrolman on the beat when the seizure is made ; but in many cases it is not. Patrolmen have been suspended for not reporting places on their beats, and it has had a good effect. While seizures by search warrant have been the main reliance for prosecuting illegal dealers, we have not hesitated to obtain evidence of violations of the liquor law by buying liquor, when it could be done by persons whose testimony would be likely to be credited in a court of law. Persons who had been selected for appointment as patrolmen were used for this purpose previous to their selection for appointment becoming public ; and this was done at the risk of incurring the disapproval of those who object to the use of what they are pleased to call spotters. For my part I can see no reason why men who are paid by the day to procure evidence in this way are any more liable to censure than the state officers who purchase adulterated food for the

purpose of procuring evidence. I do not favor the old methods of spotter's evidence, so-called, where the person securing the evidence is given a certain sum for each successful case obtained. Such a plan gives the person furnishing the evidence a personal interest in securing conviction, which very properly might influence a jury to question his veracity ; but when the individual selected to obtain evidence is a person of good moral character, and is employed by the city at stated wages that do not depend on the success of his efforts, and especially when his character and attainments are such that he has been selected for appointment as a regular police officer from the list of eligibles furnished by the Civil Service Commissioners, it does not seem possible that a reasonable person can honestly doubt his evidence. The so-called spotter fails to secure evidence in a majority of the places he visits, and if disposed to deviate from the truth for the sake of being successful, why should he confine himself to so few in number ? I have gone into this subject at length for the purpose of presenting my views of the matter of obtaining evidence by purchase of liquor sold illegally, because the people who assert that the police do not enforce the law are generally the very persons to object to what they call spotter's evidence. Licensed Liquor dealers have generally complied with the spirit of their licenses, especially common victualers who have improved somewhat their facilities for furnishing food, lack of which has been the main cause for criticism heretofore. Some inn-holders violate the conditions of their license by selling after hours and on prohibited days to persons who are not guests of their house. The advantage of having the same committees on Police and Licenses has been very evident, as they have had access to all information possessed by the police relative to saloons, and have been able to use the department in such manner as has been necessary to compel compliance with law.

POLICE TELEGRAPH SYSTEM.

When the city council of 1889 adopted the resolution to introduce the Police Telegraph System into this city they, by this resolution, did more to increase the efficiency of the Police department than by any other resolution passed in the city council since Lowell's incorporation as a city.

Since its introduction a change has been made from a ground to metallic circuit, using in all about 56 miles of wire. Pipes have been

put up from the boxes to the tops of the poles, making a safe and neat conduit from the box to the main wires; a new four-circuit inking register and spare relay has been provided, so that any ordinary accident to the office apparatus can be remedied without waiting for substitute pieces from Boston or elsewhere — a circuit, or in fact, the whole system, being thrown out of order while waiting.

In view of the obvious danger of coming in contact with wires of high tension, thereby causing the boxes to be damaged by being burned out, I would recommend that they be protected by a suitable arrangement made for that purpose; at the same time suggesting that if improvements in this line be adopted, the sooner done the better, as the danger from coming in contact with these wires is increasing every day, and the boxes could be dispensed with more conveniently in the winter than in the summer. A few could be taken out at one time without weakening the service much.

The system has done its work in a satisfactory manner, being an aid and assistance to the working force, mutually helping the officer and his superior. All the promises made by the Gamewell Company have been made good, and the courteous assistance given by them deserves the highest praise.

The city of Lowell is the first to adopt the long distance transmitter for house service on their Police Telegraph System. This is the latest and most powerful instrument in commercial use today.

Following is a summary of the work done during the year 1892:

No. of Duty reports	363,340
" Telephone calls	31,025
" Ambulance calls	145
" Wagon calls	4,808
" Prisoners brought in by wagon.....	5,836

SUGGESTIONS.

The advantage of taking the Police Department out of politics must be evident to the most casual observer. The past year has demonstrated that the department is more popular and effective than it has been in former years. The election of the chief for three years is one step in taking the department out of politics. In former years, when an opportunity was given by which a vote for the opposition candidate could be construed to express disapproval of the Police Department, many voters were ready to avail themselves of the

opportunity, regardless of other interests. The reasons for this prejudice against the Police Department are obvious. When a Police officer makes an arrest he is more than likely to make an enemy for the department. Whenever it may become necessary to interfere with a citizen, who is, perhaps, unwittingly violating some law or ordinance, the chances are more than even that he will be offended, and will be ready at the first opportunity to express his dislike of the police in the form of a vote against the administration in power. The change of the head of the police with each change in politics of the administration encourages insubordination and a disposition on the part of the force to divide themselves into political cliques, and instead of doing everything in their power to make the department efficient and respected some officers are apparently unwilling to do more than is necessary to save themselves from discipline, hoping that inefficient work will bring changes of superior officers that may perhaps benefit themselves. The remedy for this state of affairs is in a permanent chief, and the prevention of changes for political reasons alone. From the experience that I have had in the police business I am led to believe that the citizens do not as yet fully understand or realize the duties of the police officers. An officer when going on duty knows not what he is to encounter before he is relieved. He has a great many different things on his mind that the public do not, and are not, supposed to know. He is expected to look after the interests of the people. While his duties are of varied and complicated nature, many times they are laborious and dangerous, and no matter what the weather may be he must be at his post of duty. However efficient and faithful he may be he will receive the abuse of many and the thanks of few. By turning to the miscellaneous business of the department it can be seen that four hundred and fifty-nine buildings (459) have been found open, and secured. This is of great importance, as they are always found in the night. A great many times the keys are found in the doors. In such cases the doors can be secured and the keys returned to the rightful owners; otherwise the officers are obliged to see that the property is protected and the owner notified, that he may see that his store is properly secured. If this was not done many larcenies might be committed and the entrance remain a mystery. Many times goods are found outside, having been forgotten by those who closed the stores. These have to be cared for, and either taken to the station or some suitable place until they can

be returned to the rightful owner. For these and other duties the officers do not receive the credit they are entitled to.

The present Committee on Police, Aldermen Haggett, Butterworth and Johnson, have rendered me every assistance to promote the efficiency of the department, and I must say they make one of the best Police Committees the department has had.

RECOMMENDATIONS.

That some provision be made for the maintenance of a bed at some one of the hospitals. During the past year we have had occasion to send a number of persons who were injured by accidents to the St. Johns Hospital. The authorities there have never refused to accept any patient so sent, not that the city has any rights which it has paid for, but the patients have been received and cared for through charity. This should not be so. It seems to me that in a city containing nearly eighty thousand inhabitants, where large manufactories are located, accidents are liable to occur any time, and the injured should have hospital treatment. That we have been slow in this matter is a fact that cannot be disputed. That we should not be obliged to depend on the suffrage of those placed in charge of the hospital is conceded by every fair-minded citizen.

While the hospital authorities have been kind to us in every instance, I feel that we should no longer be supplicants for charity, but should have rights bought and paid for.

POLICE SURGEON.

In nearly every city where there is a Police Department of any magnitude there is a Police Surgeon. His duty is to examine applicants for police service, visit officers reported sick or disabled, and attend to sick, injured or insane police prisoners. In the case of officers reported sick or disabled he makes a report to the head of the Police Department, giving the cause and the nature of the sickness. As soon as an officer is reported sick he visits him, and the department is thus able to know whether the sickness is real or assumed. Such an officer, in my opinion, is greatly needed in our city, and I most respectfully ask you to give this matter your consideration at an early moment.

I would also recommend an increase of the Police Force. The large territory which the patrolmen are obliged to cover renders it

desirable in order to properly protect the city, the beats at the present time being too large; also recommend additional Street Signal boxes, as the large territory which the patrolmen are obliged to cover renders it desirable to have more boxes. I also recommend to his Honor the Mayor that the members of the Board of Aldermen he appoints as Committee on Police be appointed Committee on Licenses also.

I recommend that the room used now for the dispensary be fitted for sleeping rooms for the officers, so that we may have officers to call on at any time. Part of the officers that are not on duty would be obliged to sleep at the Station House.

CONCLUSION.

I desire to acknowledge my obligations to Deputies James A. McQuade and George R. Davis, to the Sergeants and Inspectors, as well as the rank and file of this department, who have so ably sustained me; to his Honor Mayor Fifield, to Aldermen Haggett, Butterworth and Johnson, for their earnest efforts to promote the efficiency of the department, and for the prompt and hearty support they have given me in fulfilling the duties of my office. I also extend my thanks to Hon. Samuel P. Hadley, justice, and to James F. Savage and Edward W. Trull, respectively of the Police Court, for the many courtesies shown me, and each member of the Police Department, and for valuable counsel and their uniform courtesy in dealing with the department. I have only to add that I have tried to be impartial in the management of the force, and in the execution of all laws and ordinances. With an eye single to the good name and fame of the city of Lowell in general, and the Police Department in particular,

Respectfully submitted,

CHARLES HOWARD,

Chief of Police.

ANNUAL REPORT
OF THE
TRUSTEES
OF THE
City Library of Lowell,
FOR THE YEAR 1892.



LOWELL, MASS.:
DAILY NEWS JOB PRINT, HILDRETH BUILDING,
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, Jan. 2, 1893.

Received and ordered on file. Sent down for concurrence.

MICHAEL J. DOWD, City Clerk.

IN COMMON COUNCIL, Jan. 2, 1893.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, Clerk.

Administration of the City Library, 1892.

BOARD OF TRUSTEES.

GEORGE W. FIFIELD, Mayor of the City.

GEORGE F. RICHARDSON,

STEPHEN J. JOHNSON,

FRANK P. PUTNAM,

LARKIN T. TRULL,

PHILIP J. FARLEY.

LIBRARIAN.

FREDERICK A. CHASE.

ASSISTANT LIBRARIAN.

HARRIET F. HILL.

ASSISTANTS.

WALTER H. GILMAN,

STEPHEN T. WYMAN,

CLARA BEARD,

BERTHA G. KYLE,

MARION F. BROWN,

ALICE M. MYERS,

HARRY C. BOWEN,

GEORGE H. CHAPMAN.

SUPERINTENDENT OF READING-ROOM.

EDWARD F. SLATTERY.

JANITOR.

WILLIAM R. MYERS.

REPORT OF THE TRUSTEES.

LOWELL, Dec. 31, 1892.

To the City Council of the City of Lowell :

The Trustees of the City Library of Lowell respectfully submit the following report for the year 1892 :

The past year has been a very important one in the history of the Library. It has been a year of preparation for the increased demands that will be made upon it in the new Library building. A comparison of the additions made this year with those of former years will show great increase in the number of volumes added. Since the Library was made free to the public in October, 1883, the accessions for each year have been as follows :

For 1884	-	-	1659	For 1889	-	-	2818
For 1885	-	-	1341	For 1890	-	-	2050
For 1886	-	-	3036	For 1891	-	-	2974
For 1887	-	-	3164	For 1892	-	-	4375
For 1888	-	-	1447				

The accessions to the Library since it was re-opened after the fire (September 1, 1891, to December 20, 1892), have been 6980 volumes.

This unusual recent growth has been due to our having had a larger fund at our disposal for the purchase of books than has been available for this purpose

in former years. That we have had this fund is not due to our having received a larger appropriation from the City Council. Our income from this source did not differ materially from that received in former years. We have had, however, the unexpended balance of the \$13,500, insurance money that was placed to the credit of the City Library upon the adjustment of the losses by fire in April, 1891. Reference to our report for 1891 will show that the balance to our credit from this source a year ago was \$11,000.

This year the money available for the purchase of books from the appropriation from the city and from the dog tax has been spent, and we have to report a balance of \$7,200 of the unexpended insurance money. As this sum represents an actual loss to the Library, not only in the destruction of books, but in the damage to very many volumes, we have felt that it should be expended to repair such loss and to gradually increase the value of the Library by the addition of new books. We have, therefore, treated this money as a special fund to be employed for these purposes, and we assume, that for the reasons we have given, the City Council in considering the needs of the Library for the coming year, will disregard this fund.

Although our Library still occupies room where the space allotted to the public has for a long time been inadequate, still, statistics of circulation, etc., elsewhere in this report, will show that, with the growth of the

Library, there has been a corresponding increase in its use by the public. There is every indication that with better accommodations its usefulness will be greatly increased.

In May of this year, we were obliged to vacate the rooms on Merrimack Street occupied for a reading room. We fortunately obtained a store on John Street for the reading room. The place was conveniently situated for our purpose, and offered more room than any we have had before. Even this larger space is often over-crowded. Seventy or eighty people in the room at a time is a familiar sight. Recognizing the importance of periodicals as a source of information, and the tendency of our busy times to their use in preference to larger works in libraries we have, we believe, supplied the public liberally with them, as the list of "Newspapers and Periodicals Currently Received" displayed in our reading room will show. One privilege of our reading room seems to be much appreciated by the public, and that is the easy accessibility to everything which the room contains. This privilege is unusual in large reading rooms, but we have experienced little loss or inconvenience from granting it.

The rooms intended for our use in the new Memorial Hall, are approaching completion, and we trust will be ready for us early in the coming year.

Our 50,000 volumes will have to be moved to their new quarters and the expenses incident to occupying

new and very much larger rooms will necessarily be many. There will be much to be done to arrange for the accommodation and administration of the Library and for the convenience of the public. New catalogues and finding lists are much needed and will be prepared as opportunity is offered.

We need not enlarge upon the educational usefulness of our Library to our city, for we feel sure that this is an accepted fact with you. The city's very liberal provision in the new Memorial Hall for the accommodation of the Library attests this.

At a meeting of the Board of Trustees for re-organizing, held January 26th, 1892, Hon. George F. Richardson was re-elected Vice-President, and Larkin T. Trull, Esq., was re-elected Clerk.

Many friends of the Library have presented it with volumes and have greatly aided in replacing the extensive losses of the Library in the department of magazines, for which the Trustees make grateful acknowledgment.

The following financial statement will show the amount and sources of the receipts for the Library and also the direction in which they were expended.

RECEIPTS.

Balance Jan. 1, 1892, of Insurance money account of	
fire, April, 1891	\$11,637 64
Appropriation by City Council	12,000 00
<i>Amount carried forward</i>	<u>\$23,637 64</u>

<i>Amount brought forward</i>	.	.	.	.	.	.	.	.	\$23,637 64
Dog licenses	.	.	.	.	.	.	.	.	3,051 57
Fines	.	.	.	.	.	.	.	.	339 44
Sale of catalogues	.	.	.	.	.	.	.	.	34 20
Lost and damaged books	.	.	.	.	.	.	.	.	8 14
Non-resident subscribers	.	.	.	.	.	.	.	.	8 00
Other Sources	.	.	.	.	.	.	.	.	62 35
									<hr/>
									\$27,141 34

EXPENDITURES.

Salaries	.	.	.	.	.	.	.	.	\$6,567 39
Rent	.	.	.	.	.	.	.	.	2,196 25
Lighting	.	.	.	.	.	.	.	.	1,144 35
Books	.	.	.	.	.	.	.	.	6,558 69
Periodicals	.	.	.	.	.	.	.	.	1,107 04
Binding	.	.	.	.	.	.	.	.	1,118 31
Insurance	.	.	.	.	.	.	.	.	150 00
Sundries	.	.	.	.	.	.	.	.	1,066 45
Balance	.	.	.	.	.	.	.	.	7,232 86
									<hr/>
									\$27,141 34

Respectfully submitted,

GEORGE W. FIFIELD,
 GEORGE F. RICHARDSON,
 FRANK P. PUTNAM,
 LARKIN T. TRULL,
 STEPHEN J. JOHNSON,
 PHILIP J. FARLEY,

Trustees.



Condition of the Library.

Volumes purchased	4,984
Volumes added by gift	216
Volumes added by binding periodicals	314
Worn-out books replaced	759
Cost of same	\$653 13
Duplicates purchased for school use	66
Total Number of volumes added	4,375
Total number of volumes in the Library	47,650
Volumes lost and not paid for	29
Estimated value of the same	\$27 38
Periodicals and Papers subscribed for	214
Periodicals and papers given	18
Total number of papers and periodicals	232
Number of volumes used, home and reference	114,915
Number of volumes consulted in reference room	11,396
Number of post cards sent to delinquents	774
Applicants received during the year	2,536
Applicants who did not call for cards	112
Names registered during the year	2,424
Number of names registered December 20, 1891	17,592
Total registered to date	20,016

Classified Contents of the Library.

General Works . . .	3,807	Useful Arts . . .	1,969
Periodicals . . .	4,240	Fine Arts . . .	1,679
Philosophy . . .	869	General Literature . .	5,751
Theology . . .	3,085	Fiction . . .	8,691
Sociology . . .	2,557	History, including Travel	
Philology . . .	349	and Description . .	8,275
Natural Science . .	2,198	Biography . . .	4,180
		Total number Volumes	47,650

Percentage of fiction to all other classes, 18.2

Classified List of Accessions, 1892.

General Works . . .	71	Fine Arts . . .	209
Periodicals . . .	1,513	General Literature . .	627
Philosophy . . .	49	Fiction . . .	598
Sociology . . .	157	History, including Travel	
Natural Science . .	228	and Description . .	363
Philology . . .	17	Biography . . .	258
Theology . . .	114		
Useful Arts . . .	171	Total accessions . .	4,375

List of Donors to the Library, 1892.

NAMES.	Pamphlets	Volumes.
Adams, Hon. Charles F.	1	
Adger, J. B.	10	
Ames Free Library	1	
Baker, Rev. Smith	2	
Benner, Mrs. B. R.		1
Boston Public Library	2	
Bridgeport Public Library	1	
Buffalo Historical Society	1	
Buffalo Public Library	1	
Cambridge Public Library	1	
Cambridge School Committee	1	
Campbell & Hanscom		9
Carter, Mrs. H. D.		1
Cincinnati Chamber of Commerce		1
Cincinnati Public Library	2	
Dalton, C. M.	4	
Davis, George S.	2	
Dewey, Melvil	1	
Ellis, John, M. D.		2
Gilman, Alfred		1
Grand Rapids Public Library	1	
Greene, Samuel A., M. D.	1	9
Hamilton, M. R.		2
Hamilton, Ontario, Public Library	1	
Hartford Library Association	1	
Harvard University Library	4	
Howitt, William O.	80	3
Jersey City Free Public Library	6	
Lewis, Mrs. Dio		1
Lowell, City of		3
Lustig, Alfred		2
Lynn Public Library	1	
McMaster, Thomas A.		47
<i>Carried forward</i>	125	82

NAMES.	Pamphlets	Volumes.
<i>Brought forward</i>	125	82
Manchester City Library	1	
Manchester, Rev. L. C.	1	
Mass. Charitable Mechanics Association	1	1
Mass. Society for Promoting Agriculture	1	
Mass. Woman's Suffrage Association		1
Mercantile Library Association, San Francisco	1	
Minneapolis Public Library	1	
Morrison, Mrs. Mary E.	3	
Naval Institute, Annapolis	3	
Newark Free Public Library	4	
Newberry Library, Chicago	1	
New Haven Free Public Library	1	
Newton, C. M.	1	
Nichols, Mrs. Caroline E.		24
Olin, Hon. W. M.	2	10
Parker, Mrs. D. Maria		30
Peirce, John		2
Philadelphia Library Co.	1	
Pinkham, George E., M. D.	2	
Pope Manufacturing Co.	1	
Providence, City of	1	
Providence Record Commissioners		1
Reade, Captain Philip	24	
Richardson, Mrs. D. S.		2
Robbins, Miss N. P. H.		1
Royal Society of Canada		1
Russell, Miss M. Ella	152	
St. Louis Mercantile Library Association	1	1
Salem Public Library	3	
Sawin, James M.	6	
Seranton Public Library	1	
Smith, Miss W. A.	12	21
Springfield City Library Association	3	
Stevens, B. F.	1	
Stevens, Hon. Moses T.		1
Sunset Club, Chicago		1
Taunton Public Library	1	
Troy Daily Times	1	
Trull, Larkin T.		1
<i>Carried forward</i>	356	180

NAMES.	Pamphlets	Volumes.
<i>Brought forward</i>	356	180
Tufts College	2	
Umeda, T.	6	
United States Board of Agriculture	2	2
Department of Interior	12	5
Department of State	13	3
Interstate Commerce Commission		1
Navy Department		1
Smithsonian Institute	3	2
War Department		20
University of Denver	1	
Varnum, A. C.		1
Wadlin, H. G.		2
Watson, Mrs. George A.		1
Wheeler, Mrs. E. S.		2
Wheeler, Rev. H. L.		1
White, Miss Ellen M.	114	5
Wight, Miss Mary E.	8	
Winsor, Justin	5	
Worcester Free Public Library	1	
Wright, Mrs. A. F.		13
Total	523	239

Library open 306 days.

Total Circulation	114,915
Average daily circulation	375
Largest monthly circulation (March)	12,174
Smallest monthly circulation (July)	7,439
Largest daily circulation (March 12)	966
Smallest daily circulation (August 11)	150
Percentage of Fiction read . . . . .	.71
Percentage of other classes . . . . .	.29

CIRCULATION IN REFERENCE DEPARTMENT.

MONTH.	Periodicals.	Philosophy.	Theology.	Sociology.	Philology.	Natural Science.	Useful Arts.	Fine Arts.	Gen'l Literature.	History.	Biography.	Total
December, 1891.....	33	2	10	13	2	29	42	22	59	32	44	288
January, 1892.....	128	19	31	99	12	109	60	91	338	308	134	1,329
February.....	99	37	73	108	35	148	82	104	417	193	107	1,403
March.....	120	33	34	60	4	214	131	83	414	160	108	1,361
April.....	82	12	36	66	7	49	98	69	263	94	104	880
May.....	127	5	26	29	10	84	129	49	208	178	88	933
June.....	24	9	20	23	2	27	46	31	147	53	24	406
July.....	31	7	20	21	—	120	60	45	174	18	18	514
August.....	39	22	23	26	—	83	59	83	197	93	23	648
September.....	31	12	33	48	1	74	64	47	166	146	40	662
October.....	82	20	22	40	1	150	57	69	274	129	84	928
November.....	115	35	52	67	9	159	52	125	282	108	99	1,103
December.....	52	17	70	85	9	103	55	118	240	123	69	941
Total.....	963	230	450	685	92	1,349	935	936	3,179	1,635	942	11,396

CLASSIFIED CIRCULATION FOR HOME AND REFERENCE USE, FROM DEC. 20, 1891, TO DEC. 20, 1892, INCLUSIVE.

MONTH.	Periodicals.	Philosophy.	Theology.	Sociology.	Philology.	Natural Science.	Useful Arts.	Fine Arts.	Gen'l Literature.	History.	Biography.	Fiction.	Total.
December, 1891.	88	11	28	34	14	80	83	84	203	173	124	2397	3319
January, 1892.	317	51	97	207	20	270	252	307	869	850	367	7563	11,170
February	356	61	138	203	75	320	277	309	975	821	308	7377	11,220
March.	400	88	109	144	16	406	350	285	1112	722	361	8181	12,174
April	340	49	97	140	14	218	255	214	827	525	296	7362	10,337
May	344	28	86	101	19	208	265	171	679	494	221	6307	8923
June	191	31	67	63	6	135	162	127	548	251	144	5717	7442
July.....	156	29	58	60	7	226	164	135	482	224	95	5803	7439
August	204	46	54	69	7	182	192	186	584	287	94	5618	7523
September.....	179	46	62	104	20	187	185	184	584	393	139	6027	8110
October	273	74	60	118	9	282	200	202	795	457	235	6949	9654
November	424	63	92	160	21	291	195	225	851	504	275	7089	10,190
December	290	39	110	134	17	201	164	219	692	387	202	4959	7414
Total	3562	616	1058	1537	245	3006	2744	2648	9201	6088	2861	81,349	114,915



ANNUAL REPORT
OF THE
CITY SOLICITOR,
OF THE
CITY OF LOWELL,
FOR THE YEAR 1892.



LOWELL, MASS.:
MORNING MAIL PRINT, 147 CENTRAL STREET.
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, Feb. 28, 1893.

Received and ordered on file; sent down for concurrence.

MICHAEL J. DOWD, *City Clerk*.

IN COMMON COUNCIL, Feb. 28, 1893.

Received and ordered on file, in concurrence.

FRANK J. SIMONDS, *Clerk*.

REPORT.

OFFICE OF CITY SOLICITOR,
LOWELL, MASS., Feb. 28, 1893. }

Gentlemen of the City Council :

I herewith present the report of this office during the past year. It does not contain a full statement of all business done, but in accordance with the ordinances it is limited to a brief statement of the suits at law and in equity, which have been disposed of or were instituted during the year.

ELIZA G. RANDALL *vs.* CITY OF LOWELL.

Action of tort brought to recover damages for injuries received by the plaintiff, who sprained and wrenched her ankle by reason of a defect in the concrete sidewalk on the southerly side of Middlesex Street. This case was tried before a jury and a verdict rendered for the defendant. Exceptions were taken by the plaintiff to the Supreme Judicial Court, but they were overruled and judgment has been entered for defendant.

DANIEL W. DARLING ET AL. *vs.* CITY OF LOWELL.

Action of contract brought by the plaintiffs to recover of the defendant damages for breach of contract. A Commission was appointed by the City Council to erect, build and finish a City Hall and Memorial Building, but were limited by resolution in the expenditure of moneys for the building of the City Hall to the sum of

\$300,000. The Commission advertised for bids, and Darling Bros., of Worcester, were among the bidders. The Commission voted to accept the bid of Darling Bros., conditionally, in the sum of \$317,109.00 for the construction and erection of the City Hall. Afterward the Commission voted to rescind the motion whereby the contract was awarded conditionally for the reason that the Commission had exceeded the limit specified as above in the resolution in the City Council.

The plaintiffs brought suit in the Superior Court at Worcester, in the County of Worcester, alleging damages in the sum of \$75,000. The case was called for trial before Aldrich, J. After the plaintiffs put in their case, the Court ruled, as requested by the defendant, that the plaintiffs could not maintain their action for the reason that the Commission had exceeded the limit specified in the resolution, and that it was the duty of the plaintiffs to ascertain the nature and extent of the authority of the Commission, and that no ratification could be had except by direct vote of the City Council. The plaintiffs excepted and the case went to the Supreme Judicial Court. The plaintiffs have, however, since the above was written in my last report abandoned their exceptions, and judgment has been entered for the defendant.

MARY CONNORS *vs.* CITY OF LOWELL.

Action of tort to recover damages for personal injuries sustained by the plaintiff, to wit: A broken arm by reason of the rough, lumpy and uneven condition of ice and snow on the sidewalk on Central Street in front of the premises of Wm. B. Spaulding; a trial was had at the March term of the Superior Court before a jury, and a verdict was given for the plaintiff in the sum of \$375. There was no defense except one involving a question of law and the case went to the Supreme Judicial Court on exceptions, which were argued January last, but no decision has yet been received.

ROSE ANN MCCARTHY PRO AMI *vs.* CITY OF LOWELL.

Action of tort to recover damages for personal injuries sustained by the plaintiff, to wit: A crushing and breaking of the bones of the right foot by the falling of a dump or derrick box on Sept. 3, 1891, which the plaintiff alleged was carelessly and negligently al-

lowed to remain in Palmer Street in a dangerous condition to public travel. The case was tried before a jury at the September term of the Superior Court and a verdict rendered for the defendant.

GEORGE WHITE vs. ALBERT E. LIBBY, A POLICE OFFICER OF THE CITY OF LOWELL, ET AL.

Action of tort to recover damages sustained by the plaintiff, in the loss of a valuable dog, which was shot and killed by the defendant Libby on Jan. 4th, 1892. This case was tried before a jury at the September term of the Court and a verdict given for the defendants. Exceptions were taken, but were subsequently abandoned by the plaintiff and judgment entered for defendants.

EDMOND PARADIS vs. CITY OF LOWELL.

Action of tort to recover damages for injuries sustained by the plaintiff, to wit: A broken rib and injuries to the back, head and spine, by the caving and falling in of an embankment of a sewer trench on Auburn Street on August 3, 1891, while the plaintiff was at work therein; after a thorough investigation of the facts and circumstances, I found there was a liability on the part of the City, and the case was settled without trial for \$550, in full of damages and costs.

SADIE T. BROWNLEE vs. CITY OF LOWELL.

Action of tort to recover damages for injuries sustained by the plaintiff, to wit: A broken arm on Dec. 20, 1890, by reason of falling on an icy sidewalk on Pine Street, which the plaintiff alleged was left in a dangerous and unsafe condition. This case was tried before a jury at the September term of the Court and the jury reported a disagreement.

Petition of the Mayor and Board of Aldermen to the Superior Court asking for the appointment of a Commission to consider the advisability of a change of grade where the railroads now operated and controlled by the Boston & Maine R. R. cross the following streets at grade, viz: Middlesex Street, Thorndike Street, Western Avenue, School Street, Walker Street and Pawtucket Street.

A committee appointed by the Mayor and Board of Aldermen made satisfactory arrangements with the Boston & Maine R. R., and subsequently by resolution authorized the City Solicitor to have the petition in the Superior Court dismissed. When the motion for dismissal was made, it was opposed by counsel representing the Board of Trade and various citizens, and after argument, the motion was allowed.

ELLEN CREADON *vs.* CITY OF LOWELL.

Action of tort to recover damages for injuries sustained by the plaintiff, to wit: A wrenching and spraining of the ankle by falling on Feb. 16, 1891, on an icy sidewalk on Merrimack Street. This case was settled without trial for \$100 in full of damages and costs.

MICHAEL R. SLAVIN *vs.* CITY OF LOWELL.

Action of tort to recover damages for injuries sustained by the plaintiff in falling on an icy sidewalk on Abbott Street in February, 1888, and fracturing his leg. This case was settled without trial for \$100 in full of damages and costs.

WILLIAM H. PENN ET ALS. *vs.* CHARLES R. COSTELLO, JAMES B. FIELD AND WILLIAM P. LAWLER, MEMBERS OF THE BOARD OF HEALTH.

This was a bill in equity, in which the plaintiffs alleged they were residents and owners of real estate on and near Plain Street, where the defendants by authority of the City Council and acting as the Board of Health proposed to erect a cremator for the destruction of garbage, swill and other refuse matter. The plaintiffs further alleged that the erection of such cremator would be very injurious, deleterious to their health and comfort, and would greatly diminish the value of their property near said cremator; and asked the Court to enjoin the defendants from erecting or operating such cremator.

On the question of the issuing of a temporary injunction before Hopkins, J., the merits of the plaintiffs' claim were considered, evidence was received, and arguments made, and the Court refused to grant a temporary injunction. Since the above hearing the plaintiffs' bill has been dismissed.

CHARLES F. HAMILTON PRO AMI *vs.* CITY OF LOWELL.

Action of tort to recover damages for injuries sustained by the plaintiff on Sept. 12, 1891, on the sidewalk on Elliott Street by falling into a window well and sunken area, causing permanent injuries to the knee pan and knee joint of the right limb.

There was no question about the liability of the City in this case as the window well extended into the sidewalk, and the plaintiff was injured about 8.10 P. M. The real question was one of damages, and the jury returned a verdict for the plaintiff in the sum of \$2500. A motion was subsequently made and argued to have the verdict set aside, alleging the damages were excessive. Braley, J., before whom the case was tried, ordered the verdict to be set aside unless the plaintiff would accept judgment for \$1750, which he finally accepted.

This case presents a feature of liability which it would be well for the City to guard against in the future; a great number of these window wells are built out into the sidewalks, are open and unguarded, and a great source of danger to persons travelling on our public streets. I summoned in the owner, Lucy E. Glidden, of the premises to which the window well was attached to defend this suit, claiming she was liable to the City, but she refused either to defend or pay the amount of the verdict; accordingly a suit was brought against her to recover the amount paid, and is still pending in Court.

AVILA D. DENNEY *vs.* CITY OF LOWELL.

Action of tort brought by the plaintiff to recover damages for injuries sustained by reason of a defective flagstone in the sidewalk on Middlesex Street, which caused the defendant to fall and permanently injure his right arm. There was no question of the City's liability and the case was settled without trial for \$250 in full of damages and costs.

The suits of the Tremont and Suffolk Mills, for abatement of taxes assessed 1888, 1889, 1890, 1891 are still unsettled; a trial was had extending over many days on the petition for abatement of 1889 before Richardson, J., in the Superior Court in accordance with the provisions of Chap. 127, of the laws of the Commonwealth for 1890, which provide that any party aggrieved may appeal to the Superior

Court. The finding of the Court in the case of 1889 is awaited with interest and may serve as a basis in the settlement of the other cases; it is to be hoped in the interest of all concerned that the litigation which has been waged so fiercely since 1886 between the corporations and the City is approaching the end, and that the settlement of the Tremont and Suffolk cases will be the final chapter in these "corporation tax cases."

Boott Cotton Mills *vs.* City of Lowell.

Merrimack Mfg. Co. *vs.* City of Lowell.

Mass. Cotton Mills *vs.* City of Lowell.

Tremont and Suffolk Mills *vs.* City of Lowell.

All these suits involve the same questions and were brought to recover interest on the various sums of money abated by the County Commissioners in the several tax cases.

The case of the Boott Cotton Mills was tried before Hopkins, J., in September last, the plaintiff seeking to recover from the City the sum of \$2,871.76 interest money. After hearing and argument the Court ruled the plaintiffs were entitled to interest from the time of abatement by the County Commissioners and not from the time the money was paid to the Collector of Taxes, and entered judgment for the plaintiffs in the sum of \$1,212.47. By the finding of the Superior Court thousands of dollars have been saved, still I deemed it best to have the Supreme Judicial Court pass on the questions and settle the law; therefore, at my request, the case has been reported to that Court. When a final decision is given, it will serve as a precedent in the settlement of the other cases above named.

THOMAS HOSTY *vs.* CITY OF LOWELL.

Action of tort brought to recover damages for injuries sustained by the plaintiff in falling on an icy sidewalk on Market Street on Jan. 15, 1891.

This action was brought in the Police Court of Lowell under a recent statute giving jurisdiction to such Court and was disposed of in favor of the City.

MARTHA W. HOWE *vs.* CITY OF LOWELL.

Action of tort brought to recover damages for injuries sustained by the plaintiff on an icy sidewalk on Stackpole Street on Feb. 20,

1891. The plaintiff fell and broke her hip and was confined to her bed for many months by reason thereof, and was unable to go about at the time of settlement, and will never have the proper use of her limb. The injury incapacitated her wholly from performing labor of any kind. As the evidence secured by the City showed the sidewalk was in a dangerous and defective condition, the case was settled without trial and judgment entered for the plaintiff in the sum of \$900 in full of all damages and costs.

CATHERINE SHAW *vs.* CITY OF LOWELL.

Action of tort brought to recover damages for the taking by the City of 3580 square feet of land of the plaintiff in the laying out and extension of "A" Street, as authorized by resolution approved Dec. 24, 1890. The only question was one of damages, and after considering the reports of different experts employed by the City, the case was settled for \$575 in full of all damages and costs.

The Committee on Claims of the City Council also heard and disposed of several claims pending against the City.

The following cases are now, Feb. 28, 1893, pending in Court:

Middlesex Company *vs.* City of Lowell (relating to the boundary line of land bordering on the Mill Pond of plaintiff, in Concord River).

Middlesex Company *vs.* City of Lowell (relating to intercepting sewer).

Henry A. Hildreth *vs.* City of Lowell.

Ann Donohoe *vs.* City of Lowell.

Bernard Riley *vs.* City of Lowell.

J. M. G. Parker *vs.* City of Lowell.

Pevey Bros. *vs.* City of Lowell.

Solomon Bachman *vs.* City of Lowell.

John H. Holden *vs.* City of Lowell.

Addison Hadley *vs.* City of Lowell.

Etta F. Knowlton *vs.* City of Lowell.

Mary N. Langley *vs.* City of Lowell.

Boott Cotton Mills *vs.* City of Lowell (relating to interest on tax abatements).

Tremont and Suffolk Mills *vs.* City of Lowell (relating to interest on tax abatements).

Merrimack Mfg. Co. *vs.* City of Lowell (relating to interest on tax abatements).

Massachusetts Cotton Mills *vs.* City of Lowell (relating to interest on tax abatements).

Patrick Mungovern *vs.* City of Lowell.

Joseph Small *vs.* City of Lowell.

Edward D. McVey *vs.* City of Lowell.

Victor Rault *vs.* City of Lowell.

Charles D. Starbird *vs.* City of Lowell (for damages in taking land for cemetery).

Wm. Manning *vs.* City of Lowell (for damages in taking land for cemetery).

Seven Olillson *vs.* City of Lowell (for damages in taking land for cemetery).

Bragg Mfg. Co. *vs.* City of Lowell.

John Manning *vs.* City of Lowell.

Francis C. Wilson *vs.* City of Lowell.

Ired B. Hall *vs.* City of Lowell.

James H. Monahan *vs.* City of Lowell.

Ellen Martin *vs.* City of Lowell.

City of Lowell *vs.* Lucy E. Glidden.

Fred Sanborn *vs.* Ransom A. Green of the Lowell School Board, two actions, one in contract, the other for libel.

Having discharged the duties of this office for two years, my experience has taught me that many things which expose the City to liability might be remedied, the matter of window wells I have referred to above.

At the present time if one will take pains to observe, he will find that in all our public streets the abutting owners of property collect their surface water, and by means of conductors discharge it across the public sidewalk; they should be compelled by ordinance to discharge such water into the sewer, as in Boston, Cambridge and other cities, and this action would diminish greatly the liability which the City is exposed to from defects of snow and ice.

The business of this office continues to increase year by year, our City is growing and methods which were employed for many years are no longer serviceable; the time is fast approaching in my opinion when the City Solicitor should devote his whole time and best energies to the City; no attorney, however, of any practice could afford to do this unless the salary is materially increased, and the term of office extended to three years.

I desire, in conclusion, to express my appreciation of the assistance rendered me by the Hon. F. T. Greenhalge in the tax and interest cases, also to M. E. McDonald, Esq., for his kindly assistance and valuable services.

JOHN J. HOGAN,
City Solicitor.



ANNUAL REPORT
OF THE
SUPERINTENDENT OF CITY SCALES
AND MEASURER OF WOOD AND BARK
OF THE
CITY OF LOWELL,
FOR THE YEAR 1892.



LOWELL, MASS.:
CITIZEN NEWSPAPER COMPANY, PRINTERS,
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 17, 1893

Received and ordered on file.

MICHAEL J. DOWD,

City Clerk.

REPORT.

To the Honorable the Mayor and Board of Aldermen :

In compliance with an ordinance requiring the Superintendent of City Scales to report annually, I have the honor to submit the following report for the year 1892 :

I have during the year weighed —

		TONS.	POUNDS.
916	loads of Hay.....	1089	930
135	“ Straw	111	1715
116	“ Glue Stock.....	256	550
31	“ Cabbage.....	26	60
36	“ Iron	26	1225
13	“ Coal.....	18	1815
10	“ Hogs	11	675
8	“ Squash.....	10	1355
6	“ Leather Shavings.....	7	1615
6	“ Rags	2	1125
3	“ Grain.....	2	1910
1	“ Waste	4	365
2	“ Oil	1	1945
2	“ Shoddy	1	295
2	“ Paper.....		2330
1	“ Bagging		1920

1	loads of	Potatoes	1715
1	"	Rubber	1625
5	"	Excelsior	1325
2	"	Rope	1250
1	"	Beef	730
1	"	Fowl	145
1	"	Tobacco	210
1	"	Lead	145
5		Carriages	—
127		Horses	—

Received for fees for weighing, \$340.88.

RICHARD J. NOONAN,

Superintendent of City Scales.

ANNUAL REPORT

Of the Measurer of Wood and Bark for the year 1892.

I have during the year, measured —

	CORDS.	FEET.
1711 loads of Wood.....	2168	3 1-4
252 " Manure.....	217	4 1-4

Received for fees for measuring, \$104.70.

RICHARD J. NOONAN,

Measurer.

ANNUAL REPORT
OF THE
SEALER OF WEIGHTS AND MEASURES
OF THE
CITY OF LOWELL,
FOR THE YEAR 1892.



LOWELL, MASS. :
CITIZEN NEWSPAPER COMPANY, PRINTERS,
1893.

CITY OF LOWELL.

IN BOARD OF ALDERMEN, January 17, 1893.

Read and ordered on file.

MICHAEL J. DOWD,

City Clerk.

OFFICE OF SEALER OF WEIGHTS AND MEASURES,
265 MIDDLESEX ST., LOWELL, DEC. 31, 1892.

*To the Honorable the Mayor and Board of Alder=
men :*

GENTLEMEN,— I herewith respectfully submit the following annual report. I have inspected and sealed scales, weights and measures, for which I have received fees, as follows :

39 Hay and Coal Scales,	at \$1.00,	.	\$39.00
250 Platform Scales,	" .50,	.	125.00
118 " "	" .25,	.	29.50
522 Counter and Spring Balance Scales, at .03,	.	.	15.66
3274 Weights,	" .03,	.	98.22
Paid City Treasurer,			<u>\$307.38</u>

I have also inspected and sealed scales, weights and measures, for which I have received no fees :

235 Platform Scales.
23 Counter "
10 Butcher "
9 Spring Balance Scales.
1519 Weights.
7 Wet Measures.

NATHANIEL E. ANNIS,

City Sealer.



CITY DOCUMENT, 1893.

SALARIES OF THE OFFICERS

OF THE

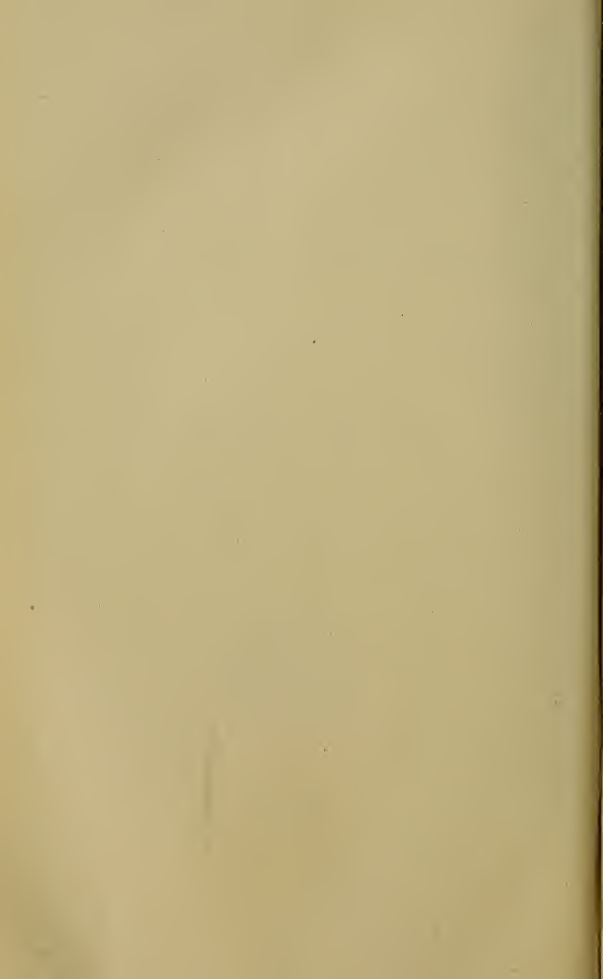
CITY OF LOWELL.

FOR THE YEAR 1893.



LOWELL, MASS.
LOWELL SUN JOB PRINT,

1893.



CITY OF LOWELL.

In the year eighteen hundred and ninety-two.

RESOLUTION.

ESTABLISHING THE SALARIES OF OFFICERS OF THE CITY OF
LOWELL FOR THE YEAR 1893.

*RESOLVED by the Board of Aldermen and Common
Council of the City of Lowell, in the City Council
assembled, as follows:—*

The salaries of the several city officers for the year beginning on the first day of January and ending on the thirty-first day of December, one thousand eight hundred and ninety-three, shall be at the rate herein mentioned; to be paid monthly, unless herein otherwise ordered.

SECTION 1. The salary of the MAYOR shall be at Mayor.
the rate of twenty-five hundred dollars per annum.

SECT. 2. The salary of the CITY CLERK shall be at City Clerk.
the rate of eighteen hundred dollars per annum.

SECT. 3. The salary of the CITY TREASURER shall City Treasurer.
be at the rate of twenty-seven hundred dollars per

annum, for performing the duties of City Treasurer and Collector of Taxes. He shall annually give a bond in the sum of fifty thousand dollars, with good and sufficient sureties, satisfactory to the Mayor and Aldermen, for the faithful performance of his duties, and to account for all sums of money received in the sales of Water Bonds, and the collection of Water Rates, and in the capacity of City Treasurer and Collector of Taxes.

Auditor of Accounts.

SECT. 4. The salary of the AUDITOR OF ACCOUNTS shall be at the rate of eighteen hundred dollars per annum.

City Solicitor.

SECT. 5. The salary of the CITY SOLICITOR shall be at the rate of two thousand dollars per annum, which shall be in full for all services rendered the city.

Civil Engineer.

SECT. 6. The salary of the CIVIL ENGINEER shall be at the rate of twenty-seven hundred dollars per annum, which shall be in full for services as Civil Engineer of the Water Board; and he shall devote his whole time to the service of the city. He shall be allowed such assistance as the Chairman of the Joint Standing Committee on Streets, the Chairman of the Joint Committee on Sewers, and the President of the Lowell Water Board may determine.

City Physician.

SECT. 7. The salary of the CITY PHYSICIAN shall be at the rate of seven hundred dollars per annum, which

shall be in full for all services rendered the city, including his duties as a member of the Board of Health.

SECT. 8. The salary of the CLERK OF THE COMMON COUNCIL shall be at the rate of two hundred and fifty dollars per annum.

Clerk of the
Common
Council.

SECT. 9. The salary of the CITY MESSENGER shall be at the rate of twelve hundred dollars per annum.

City Messenger.

SECT. 10. The salary of the MEASURER OF WOOD AND BARK, in the rear of the Market-house building, shall be at the rate of six hundred dollars per annum; and he shall account for all fees received by him in his official capacity; shall pay the same into the treasury monthly, and at the same time make a report of the account so paid to the Auditor of Accounts; and also shall be required to devote, daily, to his duty such time as the Mayor may direct. The salary of any additional measures of wood and bark shall be at such rate as the Mayor and Aldermen may, from time to time, determine; *provided*, that the same shall not exceed the amount of fees received.

Measurer of
Wood and
Bark.

SECT. 11. The salary of the PRESIDENT OF THE LOWELL WATER BOARD shall be at the rate of four hundred dollars per annum.

President of
the Lowell
Water Board.

SECT. 12. The Joint Committee on Accounts and the Joint Committee on Finance may provide such clerical assistance in the offices of the City Clerk, City

Treasurer, Auditor of Accounts, Assessors of Taxes, as may be necessary, the expense thereof to be charged to the Reserved Fund. The Committee on State Aid may provide such clerical assistance as may be necessary in the distribution of State Aid, the expense thereof to be charged to the Reserved Fund.

POLICE.

Chief of Police. SECT. 13. The salary of the CHIEF OF POLICE shall be at the rate of two thousand dollars per annum.

Deputy Chiefs. SECT. 14. The salaries of the DEPUTY CHIEFS shall be at the rate of fourteen hundred dollars per annum each; payable weekly.

The salaries of the INSPECTORS OF POLICE, detailed for detective duty, shall be at the rate of twelve hundred dollars per annum each; payable weekly.

The compensation of the SERGEANTS OF POLICE, and INSPECTORS detailed for liquor duty, shall be at the rate of three dollars per day each; payable weekly.

Day and Night Police Officers. The compensation of DAY AND NIGHT POLICE OFFICERS shall be at the rate of two dollars and seventy-five cents per day each; payable weekly.

Matron of the Police Station. The compensation of MATRON OF THE POLICE STATION shall be at the rate of six hundred dollars per annum; payable weekly.

SECT. 15. All fees received by the officers mentioned in the two preceeding sections, for attendance as witnesses, or for any other service in an official capacity, shall be paid by the officer receiving the same to the City Treasurer; and said officers shall, at the same time, report to the Auditor of Accounts the amount thus paid; *provided*, however, that said officers need not account for any fees for travel and attendance before the Supreme Judicial and Superior Courts as witnesses.

SECT. 16. THE STANDING JUSTICE OF THE POLICE COURT OF LOWELL shall be paid at the rate of one hundred dollars per annum, for receiving complaints, issuing warrants, and trying cases under the forty-eight chapter of the Public Statutes, or any subsequent Act or Ordinance concerning truant children and absentees from school.

The Standing
Justice of the
Police Court
of Lowell.

SUPERINTENDENTS AND INSPECTORS.

SECT. 17. The salary of the SUPERINTENDENT OF STREETS shall be at the rate of two thousand dollars per annum. The city shall furnish a horse and conveyance for his use.

Superintendent
of Streets.

SECT. 18. The salary of the SUPERINTENDENT OF PUBLIC BUILDINGS shall be at the rate of eighteen hundred dollars per annum. The city shall furnish a horse and conveyance for the use of himself and the men under his charge.

Superintendent
of Public
Buildings.

Superintendent
of the Water
Works.

SECT. 19. The salary of the SUPERINTENDENT OF THE WATER WORKS shall be at the rate of eighteen hundred dollars per annum; and the city shall furnish a horse and carriage for his use.

Superintendent
of City Scales.

SECT. 20. The salary of the SUPERINTENDENT OF CITY SCALES shall be at the rate of two hundred dollars per annum; and he shall pay into the city treasury all moneys received for fees.

The salary of any additional Weigher of Hay and other articles shall be at such rate as the Mayor and Aldermen may, from time to time, determine; *provided*, that the same shall not exceed the amount of fees received.

Fish Warden.

SECT. 21. The salary of the FISH WARDEN shall be at the rate of forty dollars per annum; and the salary of POUND-KEEPER shall be at the rate of twenty-five dollars per annum.

Sealer of
Weights and
Measures.

SECT. 22. The salary of the SEALER OF WEIGHTS AND MEASURES shall be at the rate of three hundred dollars per annum, and all fees received by him shall be paid into the city treasury monthly; and he shall, at the same time, report to the Auditor of Accounts the amount of such payment.

Secretary of
the Board of
Overseers of
the Poor.

SECT. 23. The salary of the SECRETARY OF THE BOARD OF OVERSEERS OF THE POOR shall be at the rate of thirteen hundred dollars per annum.

Board of
Health.

SECT. 24. The salary of the appointed members of the BOARD OF HEALTH shall be at the rate of six hundred dollars per annum each.

SECT. 25. The salary of the INSPECTOR OF MILK, Inspector of Milk, Vinegar, Oleomargarine and Provisions. VINEGAR, OLEOMARGARINE, AND PROVISIONS shall be at the rate of twelve hundred dollars per annum, and he shall perform whatever work he is called upon to do for the Board of Health.

REGISTRARS OF VOTERS.

SECT. 26. The salary of the members of the BOARD Registrars of Voters. OF REGISTRARS OF VOTERS shall be at the rate of five hundred dollars per annum each; and the Chairman of said Board of Registrars shall receive fifty dollars additional. They shall receive their pay in equal amounts, in the months of October, November, and December.

ASSESSORS' DEPARTMENT.

SECT. 27. The salary of the ASSESSORS OF TAXES Assessors of Taxes. shall be at the rate of twenty-two hundred and fifty dollars per annum each; and the salary of the ASSISTANT ASSESSORS shall be at the rate of twelve hundred Assistant Assessors. dollars per annum each. They shall devote their whole time to the service of the city, and shall make out and distribute the tax bills.

FIRE DEPARTMENT.

SECT. 28. The salaries of the several members of the Fire Department, for the year beginning May first, one thousand eight hundred and ninety-three, shall be as herein mentioned, to be paid semi-annually, unless otherwise ordered.

Chief Engineer.

The salary of the CHIEF ENGINEER shall be at the rate of two thousand dollars per annum, payable monthly, which shall be in full payment for all services which may be required of him by the City Council; and he shall devote his whole time to the duties of his office.

First Assistant Engineer.

The salary of the FIRST ASSISTANT ENGINEER shall be at the rate of five hundred dollars; and of the other Assistant Engineers at the rate of four hundred dollars each per annum.

Secretary of the Board of Engineers.

The SECRETARY OF THE BOARD OF ENGINEERS, who shall be a member of the Board, shall receive twenty-five dollars additional, which shall be in full payment for all the services which may be required of him by the Mayor and Aldermen, the Chief Engineer, and the Board of Engineers.

Call Foremen.

The CALL FOREMEN of the respective Hose, Hook and Ladder, and Steam Fire Engine Companies shall be paid at the rate of two hundred and twenty-five dollars each per annum.

Captains.

CAPTAINS OF COMPANIES shall be paid three dollars per day.

Drivers.

DRIVERS of Steamers, Hook and Ladder, Horse Hose Carriages, and Protective Wagon, who shall perform all the duties of stewards, and all other permanent men, shall be paid two dollars and seventy-five cents per day each; payable weekly.

Engineers of Steam Fire Engines.

ENGINEERS OF STEAM FIRE ENGINES shall be paid at the rate of two hundred and twenty-five dollars per annum.

ASSISTANT ENGINEERS OF STEAM FIRE ENGINES shall be paid at the rate of one hundred and seventy-five dollars per annum each. Assistant Engineers of Steam Fire Engines,

All other MEMBERS of Steam Fire Engine, Hose and Hook and Ladder Companies shall be paid at the rate of two hundred dollars per annum each. Members.

SECT. 29. Whenever any person in the employ of the city shall demand payment of his salary, or any part thereof, it shall be the duty of the Auditor and City Treasurer to deduct therefrom any and all sums of money due from such officer to the city.







